ARCHIVES OF SURGERY.

APRIL, 1890.

ON HEREDITY IN REFERENCE TO DISEASE.

It is only by a systematic, detailed, and careful appreciation of the various hereditary habits of body predisposing to disease, that we may hope to advance to a natural classification of chronic maladies as we encounter them in practice. Not that inheritance explains all or nearly all. The influences to which a man is exposed after his birth are of course manifold and important. In some cases, however, they are too obvious to be overlooked, whilst in many others their efficiency and mode of action are much modified by the organic peculiarities which have been inherited from former generations. We must begin by the study, not of the disease so called, but of the body which evolves the disease, and having as closely as possible estimated its original proclivities, we may next proceed to investigate the influences which have been more recently brought to bear upon it. In this way, and in this way only, as it seems to me, can we hope to advance beyond the arbitrary and piecemeal nosologies which at present encumber alike our habits of thought and our endeavours to convey our knowledge to others.

Respecting the rough facts as to the hereditary descent of tendencies to disease, I presume that there are not many sceptics. We all believe that a child is in very literal sense the offspring of his parents, and that whilst for convenience we may speak of him as a new being, he is really a perpetuation or continuation of them. Re-production is, as the word

implies, perpetuation only, not creation in any sense. There is no mystery as to a son "taking *after* his father," for he takes *of* his father and, although with a certain very important difference, he is *him*. Every portion of tissue of which the new-born body is composed has been derived from its parents. The nerve cells, the pigment granules, the bones, muscles, skin, hair, nails, blood corpuscles, liver, kidneys, spleen, stomach, glands, every structure that can be mentioned, has been formed not only on the pattern of those of its parents, but actually from them; and partakes of their substance, and will in due time assume to the full their functions.* It is impossible that it should be otherwise, for no new force has been at work, and every result is in exact relation to its cause. The general consequences of these physiological truths are so obvious that they have attracted the attention of even the least-trained observers. Our literature and our household proverbs abound in proofs that the general likeness of children to their parents has not escaped notice; and yet side by side with this wide recognition there is an equally well-founded feeling of doubt and limitation. We may ascribe this mainly to the difficulty which results from the fact that every child has *two* parents, and further to the fact that he inherits not only the qualities of his father and mother, but certain others which may have been wholly latent in them, *i.e.*, those of his more distant predecessors. Sexual

* So far as I can understand them, I am quite unable to accept, in reference to the inheritance of tendency to disease, the recent teaching of Weissmann. The question at issue may perhaps be best stated in the following quotation:—"Our object is to decide whether changes in the soma (the body, as opposed to the germ-cells) which have been produced by the direct action of external influences, including use and disease, can be transmitted; whether they can influence the germ-cells in such a manner that the latter will cause the spontaneous appearance of corresponding changes in the next generation. This is the question which demands an answer; and, as has been shown above, such an answer would decide whether the Lamarkian principle of transformation must be retained or abandoned (Weissmann, p. 410). In order to solve this question we require to know what class of influences can be supposed capable of producing "change in the germ-plasm." Weissmann himself, in a sentence which to many may seem almost like giving up his theory, repudiates the idea that germ changes occur from internal causes (Nägeli's view). He asks, "And how could the germ-plasm be changed except by the operation of external influences, using the words in their widest sense?"

reproduction, with its double parentage and consequent mixture of result, brings the first complication; Atavism brings the second. Were it not for the former, atavism would be unimportant, since were it not for the fresh mixture of parentage in each successive generation, child and parent would be so closely similar, that to say that a new being resembled its parent or its great-grandparent would be to assert the same thing. As it is, every human child has two parents, four grandparents, eight great-grandparents (with but few exceptions), and sixteen great-great-grandparents. To go no further back, it is certainly within possibility that he may inherit in preponderance the qualities and endowments of any one of these thirty individuals, whilst we must admit that at each one of the fifteen marriages a blending of the qualities of two individuals took place of a kind of which it is impossible to calculate the precise results. We can easily conjecture, with such facts before us, that although the laws of hereditary transmission may be very constant, yet their workings may assume the appearance of uncertainty and caprice.

In the following remarks it will be both assumed and asserted that everything that is born with a man and much also that he acquires, he is capable of transmitting to his children. Whether it be a cleft in his iris, a superfluous little finger, the omission of the nerve organization necessary to colour sense, or a tendency to a special form of indigestion, having once occurred it may be transmitted. The facility of transmission varies with the character of the peculiarity and the date at which it has been acquired. Speaking generally, the farther back the date of its origin, whether in the family or the individual, the more certain its transmission; and of congenital abnormalities it is probably true that those which are of the nature of additions are more frequently transmitted than those which are deficiencies, whilst the latter are more prone to appear sporadically and as it were by accident.

A strong distinction may with convenience be drawn between the inheritance of a disease and that of a tendency to disease. I am using the word disease in a rather wide sense, and am making it comprise some conditions which partake rather of the

character of malformations.* A child may inherit syphilis,—in the strictest sense he may take over from his parent the virus itself in a manner which is certain to ensure its full development; he may also inherit colour-blindness, the hæmorrhagic diathesis or ichthyosis; but he cannot be properly said to inherit retinitis pigmentosa, rheumatism, lithiasis, or epilepsy. Respecting these latter, all that can be said is that he may inherit an organization which is likely to develop these diseases or to permit their development. When a tendency is transmitted, the inheritance may be *conditional* or *unconditional*; that is, its development may be certain whatever influences its subject may be brought under, or it may await the effect of exciting causes without which the inheritance will never be realized. The inheritance of tendency to gout, for instance, is probably but seldom so strong as to be unconditional, whereas, so far as we know, that to retinitis pigmentosa is always so. But very few of the transmitted tendencies to disease are absolutely unconditional.† Dr. Joseph Adams, in his "Here-

* It must be remembered that it is, for the most part, the fundamental causes of disease which alone can be transmitted by inheritance. The words which we employ to designate disease are most of them words applicable to results and not to causes. These results are often produced by several causes acting together, or they may be to a certain extent dependent upon what must rank as accident. Thus a man does not, properly speaking, inherit tuberculosis or gout, but he inherits viscera which are liable to disturbance in the directions which may result in those conditions of disease. He does not inherit epilepsy or a tendency to apoplexy, but rather an unstable state of nervous system which may lead to the one, and a liability to disease of the arterial coats which may result in the other.

† Although Weissmann stops short of a denial that the organism may exert a modifying influence on its germ-cells, yet he seeks to reduce this to a minimum. He writes definitely, "In fact, up to the present time, it has never been proved that any changes in general nutrition can modify the molecular structure of the germ-plasm, and far less has it been rendered by any means probable that the germ-cells can be affected by acquired changes which have no influence on the general nutrition." Thus the theory of persistent germ-plasm as the basis of heredity may be put in direct contrast with the older hypothesis, "that the organism produces germ-cells afresh, again and again, and that it produces them entirely from its own substance." It is, of course, far removed from Darwin's conception of pangenesis and from Spencer's of physiological units. It is obvious that under the latter theories the germ-cells, being produced by the organism, may represent all peculiarities possessed by the organism at the moment of their production. This, according to the new theory, is impossible. Weissmann asserts that no peripheral disturbance of nutrition, or hypertrophy

ditary Peculiarities," uses the terms *disposition* and *predisposition* as synonymous with *conditional* and *unconditional*. It is scarcely necessary to state here that the terms *connate* and *congenital* are to be carefully kept to their strict etymological signification; that is, as denoting simply the presence at the time of birth of that to which they are applied. A disease may of course be congenital and yet not inherited, and many are inherited which are by no means obviously congenital; which do not indeed display themselves until long after birth.

It is perhaps doubtful whether it is worth while to attempt to retain in use the somewhat pedantic word *connutrite* as employed by our forefathers to designate diseases derived by lactation from the mother or wet nurse. Obviously such maladies ought not to be confused with those obtained by inheritance. There is, however, another group allied to them for which a special name would be a convenience, and which approach more nearly to true inheritance. I refer to those which are obtained by the fœtus during its intra-uterine life, whether by contamination or as the result of defective nutrition on the part of its mother. Inheritance in its strictest sense might perhaps be said to apply only to the initiation of the new organism, and so far as the father is concerned it is so limited. The father is a parent in only one mode, but the mother in two; she not only supplies the germ, but she exclusively nourishes it during its earliest (*i.e.*, intra-uterine) period of existence. In reference to the production of that

due to local causes, can possibly become inherited. He remarks that an oak which has for generations produced galls under the irritation of the insect's egg, never acquires the slightest tendency to produce galls spontaneously. We may suppose that the first gall was as perfect as the last. They are local phenomena due to local causes, and can by no possibility, in his hypothesis, influence the germ-plasm. Extending the illustration to what is observed in the human body, he asserts that the little exostoses which are not unfrequently caused by rifle-drilling (known as the "drill-bone") cannot possibly become hereditary, nor can the son of a father who has had them be in the least more liable to their production on that account. The fact may perhaps be in both instances as Weissman assumes, and yet it is very possibly true that the tendency of the tissues to react under irritation and to produce in the one case the gall and in the other the exostosis may be definitely increased by inheritance. We are probably dealing with conditional, not unconditional, inheritance.

class of diseases which are in part at least due to food, this is a most important point, and in this respect probably as giving a tendency to such maladies as scrofula, gout, and above all to rickets, it is possible for the mother's influence to far exceed that of the father.

I shall not refer further to the supposed possibility that maternal influence may be brought to bear upon the fœtus through the nervous system, than just to remark that the evidence is most untrustworthy. In the search for the causes of congenital deformities, it will be well to defer as long as possible any recourse to a suggestion so much in opposition to physiological probability. Whatever influences the mother's blood, whether through her emotions or otherwise, may possibly, let it be granted, disturb the nutrition of her child in utero, but further than this we cannot go.

The deformities which are often credited to shocks, fright, and other powerful impressions brought to bear upon the pregnant mother, are usually precisely those which are easily explicable on the known laws of embryo-development. They are such as often prevail in several members of the same family, and not unfrequently in more than one generation. They are equally common in the case of birds, whose eggs during the whole period of embryonic development are certainly beyond all possible reach of maternal influence other than that of physical warmth. In animals which bring forth many young at a single birth congenital deformities occasionally occur, but are usually limited to one only of the litter. If due to maternal impressions, we should have expected them in the whole. Further, it is a fact familiar to us all that in a vast majority of instances of congenital deformity there is no history of maternal shock, and also that whenever such deformities are foretold by mothers, in consequence of such shocks, they are never seen. Surely, with such an array of improbability, we are entitled to put aside the flimsy and often absurd statements by which the attempt is often made, even by those who should know better, to bolster up such stories. This argument is, however, to be distinctly limited to defects supposed to be produced through the mother's nervous system, and does not apply to others in

which the influence may have been sufficient to definitely disturb the blood supply.

There is, however, another way in which a mother may appear to take, and a father may most certainly lose, part of the rightful share in the procreation of offspring. I refer to those cases, now very numerous and well established, in which the offspring presents a definite resemblance not so much to a present husband as to a former one. This has been repeatedly noticed in the human species, but, as might be expected, the most conclusive instances have been witnessed in the lower animals. The College of Surgeons is the possessor of the earliest items of documentary evidence which were collected on this point. Lord Morton bred from an almost pure Arab mare a mule, by a Quagga stallion. This occurred but once, but the two next foals, which the mare subsequently bore to other horses, bore traces of the Quagga markings. Portraits of these animals were with praiseworthy zeal preserved, and are now on the College walls. Lord Morton's narrative has become classic, and it is now well known to illustrate the rule and not the exception. In the breeding of mules it has been noticed over and over again that the subsequent progeny of the mare, so used, always for a certain time have some mule characters, although fathered by well-bred horses. In dogs, cats, sheep, in fact in all animals where crosses have been obtained between individuals of marked features, the same law has been observed. The father of the first born is the progenitor also, in part, of several of those which may be begot by other males. Nor is it only external resemblances that are thus transmitted, for peculiarity of temper and endurance may be obtained in the same way. So constant indeed appears to be the law, that it may even perchance be utilized in the future in the breeding of animals. Thus it may be suggested that if all she-asses were in the first instance coupled with stallion-ponies and allowed to bear mutes, their subsequent progeny by asses might possibly be improved.

I was myself many years ago much interested in this subject, in connection with the influence which a fœtus begot by a syphilitic father appears to exert upon the health

of its mother. A series of experiments were long ago performed by Mr. (now Sir William) Savory, to prove and illustrate the possibility of absorption by the mother from the fœtal fluids. It has, however, been long felt by most that no theory of blood contamination on the part of the mother would suffice to explain the extraordinary phenomena now in question. Such contamination, if it influenced the health of the mother, might also deteriorate the health of a subsequent fœtus, but it could not possibly convey to it the features and physiological development of a former husband. Nor is the suggestion that it is effected through a psychical influence on the mother's imagination any more plausible. I do not know whether Professor Agassiz or our own great teacher Darwin is to be credited with the first suggestion of what is probably the truth. This suggestion is that it is possible for the semen to influence other ova than the one which undergoes development, and that such ova may remain without further tendency to growth until fresh roused by the presence of new spermatozoa. The facts upon which this hypothesis chiefly rests are that in birds, the turkey for instance, a single impregnation is sufficient for a long series of eggs, and that in some turtles repeated acts of intercourse at long intervals (twice a year for four years) are needed to cause the germ to develop. Various other facts, some not unimportant ones quoted by Darwin, respecting the action of pollen upon the ovary in plants, might be adduced, but these are the most striking. They are supported, I think, very strongly by the circumstance that the theory in question does seem to explain the facts, and that none other does so. In further corroboration may be mentioned that this kind of influence of a former impregnation upon subsequent ones appears to be terminable. We do not know its precise limits, but it seems probable that not more than two or three of the subsequent births are (in mammalia at least) so influenced. It is probable also that the shortness of the interval between the first and the second conceptions may be of some importance.

Putting aside the possible influence of disturbing causes such as those just alluded to, I believe it may be said to be probable that the shares taken by the male and female parent

in the development of offspring are nearly equal. In a very large majority of cases the product is a mixed result, in which the mingling and modification of qualities is inextricable. Instances do however occur, and that very frequently, in which there is obviously in the child a greater resemblance to one parent than to the other, or some very definite peculiarity possessed by only one may be inherited. In all instances in which parents transmit to children, the term *immediate inheritance* is appropriate. If it be from father to son, the inheritance is immediate and direct paternal; if from mother to daughter, is immediate direct maternal. As opposed to direct inheritance we have *oblique* or *diagonal*, terms which are applicable when a father transmits qualities to his daughters and a mother to her sons. Mediate inheritance occurs when a grandparent transmits to a grandchild through a parent who is exempt. For marked examples of this generation-skipping or reversion, the term atavism is employed. Curious and almost marvellous examples of atavism will be within the knowledge of all. Not only may one generation be omitted, but a peculiarity of a very definite kind may fail to show itself in several generations and then reappear in force in a remote one. A little consideration will, however, convince us that the marvel is not in its reappearance, but in its long latency. Atavism is really the rule and not the exception, and each generation is, as regards essentials, the medium of transmission from all preceding ones to all those which are to follow. In all essentials we, of course, represent our great grandfathers, and they theirs in turn, and it is absurd to talk of reversion where there never was any material departure. The phenomena to which the term atavism is, however, now commonly applied, are of the nature of peculiarities or supra-additions having often little or no connection with the well-being of the individual. Even respecting these the term reversion is not unobjectionable, for the reality is a projection forwards of the ancestor, not any looking backward of the child. We may plausibly suppose that these individual peculiarities are dependent upon those parts of the organism which are transmitted with the greatest difficulty. The five normal digits have for long been a fixed possession; with a

sixth superfluous one it is otherwise, and hence its maintenance in transmission may be, and probably is, by no means easy.

One of the first and most important questions which we have to ask as regards what is called atavism, is as to whether there is any law or direction of force which favours its occurrence? Is there any sort of alternation of generations, any law under which a man's grandchildren are more likely to resemble him than are his children? I believe that there is a widely-spread impression that such is the case, and certainly not a few facts as regards the transmission of remarkable peculiarities appear to favour it. Some have sought to explain the supposed fact by resort to the hypothesis of sex diagonal transmission, holding that a father transmits his qualities to his daughters and a mother to her sons. This, if true, would however be applicable only to those peculiarities which show a preference for one or the other sex. It is supposed, for example, to explain hæmophilia and colour-blindness, both of which are almost peculiar to males, and seem to be usually inherited from the mother. If there be any wider law than this which would include both sexes, the alternation would probably amount about to this, that a man transmits his substratum of constitution to his children, but is unable to transmit his personal peculiarities; that the latter require, as it were, a rest, and that after this rest or latency in the individuals of one generation they are able to reappear with original or even increased vigour in the third. Such a tendency is easily conceivable, and may be sometimes a reality, but I doubt whether the facts when critically examined will be found to give it support. They are, however, as yet under debate, and I shall have to allude to them again, and to mention in detail some of the facts which concern them.

Before we attempt to go further in this direction, it will be well to investigate a certain disturbing influence which is always at hand to belie and invalidate our conclusions. I allude to prepotency, or an unusual power of influencing offspring which is possessed not infrequently by individuals

of either sex. It is by no means the same as aptitude for procreation, although it is frequently associated with it, but consists rather in a peculiar power of impressing the character of its possessor on offspring without regard to the number produced. As a rule it is believed to be the attribute of high breeding and force of individuality, for it is always observed that representatives of a pure race which, possessing marked characteristics, has been kept for many generations unmixed, will be prepotent as regards one of mixed descent. In individuals of equally pure race however, and quite without regard to state of health and vigour, the possession of prepotency may be proved, and very often we must be content to recognize without being able in any way to explain it. It concerns itself with great and with little achievements alike, sometimes stamping in the most unmistakable manner the whole conformation of the offspring; at others conferring simply a superfluous little finger or destroying the perception of red as a colour. It is by no means proved that when these little peculiarities are transmitted they imply modification of the whole being in the direction of likeness to the parent from whom they are derived; indeed the opposite is often known to be the case. It seems probable that prepotency may concern itself with almost any single feature, endowment, organ or part of organ in the body.

A white cat possessing a few black hairs in her forehead bore kittens to a tom which was wholly black. All the kittens were entirely black with the exception of a small white patch on the forehead. The tom was here prepotent, for the usual result of such a cross is either black and white or nearly equal numbers of blacks and whites. Breeders of horses and cattle are well familiar with the fact that some bulls and stallions impress upon their progeny their own characteristics with great certainty, whilst others quite fail to do so. Marked instances are on record where of two brother stallions one always showed prepotency and the other never, thus conclusively proving that it is often an individual endowment. Sometimes the power is so absolute that it obtains with all individuals of the opposite sex; at others it

is only relative and may fail with one and succeed with another. It may, in brief, be considered to be equivalent with growth-power or life-vigour.

To attempt the specification of the laws under which the power of prepotency is most frequently manifested, we may with some caution mention the following points:

1st. If in other respects the balance be nearly even, each sex will show a slight degree of prepotency in respect to offspring of the same sex; that is, the female children will, in other respects than those directly connected with sex, resemble their mother, and the males their father. This law perhaps underlies the very curious facts as regards sex limitation in the transmission of peculiarities through many generations. Upon this subject a very valuable essay has been written by Dr. Sedgwick, to which I am indebted for several of the cases which I shall mention.

2nd. If the balance be in other respects nearly even, the male parent is usually in a slight degree prepotent as regards the female. This law is of course somewhat contracted by the preceding, the result being that offspring of both sexes partake rather more of the qualities of the father than of the mother, and that the inequality is greatest in the males.

3rd. Immediately on the assertion of these general laws, admittedly of only slight power, we must add another, namely, that either sex may so preponderate over the other as to entirely efface their operation, and this not only as regards qualities which may be supposed to be neutral, but those also which specially pertain to sex.*

Each sex must be supposed to comprise the other in a latent or suppressed form. Perhaps the most pointed illustration which I can give of the law just referred to, is the fact that cattle breeders in examining a bull pay attention amongst other points to the number and arrangement of his teats, knowing that they will indicate his probable power to

* Very unusual prolificacity may probably be safely credited in most instances to the mother. It is quite possible that it indicates on her part unusual vigour and growth power of the kind which produces prepotency. I have repeatedly been struck with the fact that in cases of remarkable family prevalence of peculiarity, the family was remarkably large.

beget female offspring that will milk well. There is nothing that should astonish us in the fact that hypospadias may be inherited on the mother's side.

4th. It seems probable that prepotency may sometimes even determine sex itself. The influences which determine sex are surrounded by mystery, but it is impossible to resist the belief that in some instances personal peculiarities in the parent are sufficient, supported as it is by the numerous instances on record in which the most conspicuous inequality in numbers have occurred in the progeny of certain individuals. I had myself a boar pig to whom three several sows produced twenty-seven pigs, all excepting three being females, the inference being that in him prepotency was decidedly defective.

5th. Prepotency may either develop organs or faculties in excess, or it may favour their defect or suppression. This we see definitely illustrated by the two classes of cases in which children are born with superfluous digits or with defective development of them. The latter, as already remarked, is however far less commonly transmitted than is redundancy. I possess, however, a sketch which shows the hands of a father and son now living at Hitchin, patients of Mr. Richard Shilleto, which illustrates in a very remarkable manner the hereditary transmission of a deficiency. The same tendency is occasionally seen in harelip, hypospadias and many other conditions. Under the known laws of correlation of parts, prepotency also often works in favouring the simultaneous production of excesses and defects.

6th. Prepotency is itself transmissible, and is also, like other characteristics, subject to latency. Stock breeders avail themselves largely of this fact, and a male becomes valuable not only in respect to his individual characters, but in proportion to the certainty with which he transmits those characters to his offspring.

7th. As has been just observed, prepotency in one thing by no means implies it in all, and it thus becomes possible that in the same offspring evidences of the prepotency of both parents may be observed. This is probably not unfrequently the case when some minor defect or superfluity is concerned.

A son may have inherited his breast-pin from his father, whilst the bulk of his fortune may have come on his mother's side.

A word may here perhaps be suitably said as to the estimation for purposes of diagnosis or otherwise of what is sometimes called *collateral descent*. It is obvious that in respect to vital tendencies a man can inherit nothing from his uncles. Yet the history of collateral relations, assuming always of course that they are certainly of the same stock, is of the utmost value in determining whether or not an individual inherits any given tendency. For the uncles and cousins and even more distant relatives are specimens of the race, and the liabilities with which we have to deal are usually matters of family possession. Our human laws as to property here part company with those of nature respecting disease. Nature knows but little of primogeniture, and nothing whatever of entail, and under the laws of prepotency, latency, and atavism, her bequests may easily appear to pass in irregular and unexpected directions.

After this review of the facts as to possible prepotency, we shall be in a far better position to estimate the evidence as to the relative influence of the two sexes on offspring. Once forget or deny the influence of prepotency, nothing is easier than to make almost any dogma seem probable on this subject. As regards the suggestion that a tendency to atavism (or generation-skipping) is the rule, we must remember that some of the examples of it supposed to be most definite, are equally well explained by the suggestion that the wife was prepotent in the one generation, and the husband in the second. So also with limitation of disease in several generations to one sex, it may be that here is nothing but the prepotency of the father in respect only to offspring of his own sex. I confess that it seems to me probable that this is the true explanation, and that it is not likely that there exists any tendency to atavism as a rule. Its remarkable manifestations are more probably to be regarded as exceptional, and as instances of interrupted prepotency.

It is necessary to say a few words in more detail as to what is known as to the relative influence of the two sexes in deter-

mining peculiarities in the offspring. As I shall in further parts of my paper have to recur again to this as it concerns the transmission of disease, and malformation, I will for the present be almost silent on these departments, and refer only to the physiological facts obtained by crossing. It is well known that many axioms are current amongst those familiar with animals on these points. We are assured with great confidence that a law obtains under which the female contributes the nutrition and vascular systems, and the male those which determine the general form. Another theory is that propagation is done by halves, the male contributing the back, loins, hindquarters, shape, skin and size, and the mother the head, forequarters, vital and nervous systems. It is admitted by the originator of this ingenious theory, a distinguished practical observer, that these divisions of labour may sometimes be reversed. I mention them in order to remark that the experience of practical breeders must not on these subjects be allowed undue weight, and in confirmation of this may state that Mr. Spooner is quite sure that size is governed by the male parent, and Mr. Orton equally certain that it follows the female. We may, I believe, safely take the middle course, and rejecting both creeds, hold that excepting when disturbed by prepotency, or other individual inequality, the two sexes share in very nearly equal proportions in the endowment of offspring, and that consequently we must not expect to find disease of special organs more easily heritable from one parent than the other. This is, as will be seen, a very important conclusion, and as part of the evidence on which I rely for its proof consists in facts somewhat at variance with those which I find in books, I may be permitted in conclusion to advert to them. The horse and the ass will breed together easily, and the cross may be either that of the jackass with the mare, or of a stallion pony with a she-ass. These animals are familiar to us, and their differences might have been supposed to be sufficiently marked to allow of our estimating with much accuracy their relative prevalence in offspring.

The offspring of a mare by an ass is known as a mule, and is very common; that of a she-ass by a stallion is a "mute" or

"hinny," and is much less so. Mr. Orton, who is an authority on this subject, asserts that it is clearly evident that in external characteristics the male in each instance predominates in the offspring, and that the mule is a modified ass, and the mute a modified horse.

Such observations as I have myself been able to make oblige me to differ from Mr. Orton's statements, and to assert that the facts as to mule-breeding, while they often illustrate very forcibly the laws of prepotency, and give us most instructive insight as to the working of certain other laws of transmission, do not exhibit any definite or constant preponderance of one or the other sex, either generally or in respect to special organs. There are many mules which so much resemble their mothers in coat, build, tail and mane, that you have to look at the head and ears, or the feet, before you can determine the animal. There are others which have the ass's tail and mane, and it may be the dark stripe down the back and the cross on the shoulders so frequently seen on the ass. It is true that a mule is a modified ass, but it is equally true that he is a modified horse. One remarkable fact we must note, that however strongly in single instances the prepotency of either parent may be shown, it never amounts to anything approaching a suppression of the other. We never see either a mule or a mute which cannot on inspection be easily recognized. The nearest to this which I have ever myself observed occurs in a very pretty little animal which I often pass in the streets, drawing with great spirit a costermonger's cart. It has the coat of an ass, and looks so like one that my coachman calls it a donkey. It has, however, a bushy tail, and a mane that droops sufficiently to admit of its being plaited.* There is yet another character to

* For practical purposes, a mule is a horse (after its mother) with the power of endurance and sagacity of an ass (after its father). A mute or hinny is an ass in size, and although superior in docility to an ass, and perhaps a little in endurance to a horse, has no real advantage over a pony. Hence hinnies are but little bred. In each case the offspring is infertile (with the rarest exceptions). Usually it is easy to distinguish at sight a hinny from a mule. The ears, which are a conspicuous feature, are, I think, always a mixed result. I never saw either a hinny or mule with ears that were as large as those of an ass or as small as those of a horse. The tail also is, I think, never quite

which I have not alluded, which distinguishes in a definite manner horses from asses, and which enables us to estimate the preponderance of either parent in the offspring. I refer to the curious callosities ("chestnuts," as sometimes named) which are seen on the legs of both. There are four in the horse, and only two in the ass. They occur just above the knee (*i.e.*, the wrist) in the fore limbs, and just below the hock (*i.e.*, the heel) in the hind ones. In the ass those only on the fore legs are present, and they are much softer and more leather-like than those of the horse. I have the highest authority for stating that nothing is definitely known as to what these curious bald papillary patches of skin mean, or of what they are representative. Now the horse having four, and the ass only two, let us see how it stands with their hybrids. In the mule, with the exception of perhaps one animal in twenty, there are always four. Those on the fore legs are never, so far as I have observed, wanting, but those on the hind ones may be so occasionally, and are often very small. In the little ass-like mute which I have just described, there are curiously enough, I believe, no callosities at all. So much for the assertion that in mules the ass predominates, and in the mute the horse. In England we have but few opportunities for examining mutes, and as they are always those bred from the small English donkey, their small size always enables us to distinguish them from mules. There comes, however, from an American plantation, where large asses are kept and mule breeding attended to, the positive assertion that it is often quite impossible to distinguish

characteristic of either animal. The mule inherits from his father (an ass)—great endurance, ability to thrive on scant and coarse food, temper, an obstinate disposition, longevity, long ears, lightness of legs, surefootedness. "In reason, memory, obstinacy, and social affection, the mule excels either parent" (Darwin). In all these he inherits from his father. From his mother (the mare)—size; colour and texture of coat; tail, with hairs to its root (variable); mane more or less flowing (variable); callosities in the hind legs as well as the fore ones. A hinny inherits from his father (a pony)—temper; general appearance (not always); colour and texture of coat (not always); tail and mane (variable); constitution, as regards power, endurance, and longevity. From his mother (an ass)—size; ears; coat (variable); lightness of legs; callosities on fore legs only, or even none at all.

between a mule and a mute. We learn, then, from this very definite example, that there is no real ground for the assertion that in hybrids the influence of either parent preponderates greatly in the offspring. We become incredulous as to there being any recognizable laws as to the share which each takes. We may, however, yet learn something more. It is often asserted that there is a law of diagonal inheritance, by which the daughter takes after her father and the son after his mother. If this be so, we ought to see its effect most obviously in the case of mules, where the two parents differ so much. But we do not. At the Peckham stables for the supply of the South London Tramways about three hundred mules are at present kept, and any one who will visit these stables may easily convince himself that there is nothing in the conformation of the mares by which they may be distinguished from the jacks. The stable-men tell me further that there is nothing in temper or power of endurance to differentiate them.*

* Never by any chance is an animal produced so exclusively resembling either parent as to be indistinguishable. A mule never closely resembles an ass, and from a horse its ears alone always suffice to distinguish it. Goats and sheep will breed together, but I am not aware of any observations which have reference to the special preponderance of either parent in relation to the sexes of the latter. The above remark also applies, I believe, to the crossing of hares and rabbits, the camel and dromedary, wolf and dog.

(*To be continued.*)

ON THE THEORY OF CATARRHAL FEVERS AND INFLUENZAS.

I WILL begin with the proposition that there is such a thing as *Reflex Catarrhal Inflammation*, and that it is attended by what we may suitably recognize as *Catarrhal Fever*. Without any exposure to contagion, without having experienced anything of a nature to seriously reduce the bodily vigour, but after some quite short, and apparently trivial, exposure to cold —it may have been damp feet or it may have been a draught of cold wind on the head—a state of nerve-disturbance may occur to which we give the name of "a cold." Such colds may present great variety of kind, but I will take for present purpose a type-form. A sensation of discomfort warns the cold-catcher that something is about to go wrong. He feels probably a little creepy or chilly, then follows a salt taste in the back of the throat and next a tendency to sneeze. Profuse discharge of nasal mucus soon sets in—the blood-vessels of the mucous membrane being dilated and the glands in most vigorous action. With this there is great general discomfort, minor rigors, extreme susceptibility to cold, desire for warmth, high temperatures, a dry skin, high-coloured urine, aching in the head, limbs, and back. The attack if severe will last one, two, or three days, and then will show a tendency to spontaneous decline. The more rapid its development, usually the more rapid its decline, and *vice versâ*. Whether longer or shorter, whether slight or severe, every one expects his cold "to go off" after a little time. Spontaneous cessation and the observing of stages are almost as much matters of rule in reference to common catarrhs, as they are with any of the specific fevers.

Here let me ask very seriously, whether it would not be convenient that the term *Catarrhal* should be kept strictly for this class of maladies. A cold in the head, which I have

taken as the type-form, is only one of a class. Some persons on catching cold have inflammation not of the nasal chambers but of the throat, others of the bronchial mucous membrane, others, it may be, of the bowels. Let our definition take cognizance of cause, of essential pathogenetic sameness, and not of variable results. Let every reflex disturbance of function resulting directly from the exposure of some more or less distant part of the surface to cold or damp be known as catarrhal, and let nothing else be so named. In this way we shall construct a quite natural group of maladies, and shall be able subsequently to place beside them others, more or less cognate. There must, however, be no confusion of terms.

A distinction must be drawn between inflammations which result from the direct exposure of the part to cold and those which I have described above as of reflex origin. For example, if an eye or an ear inflame in consequence of the direct influence of cold, the condition of things is different from that which we encounter in true catarrh. First we have the inflammation restricted to the part affected; it does not usually spread to the other ear or the other eye. Next the character and degree of the inflammation are usually in ratio to the degree of exposure, whereas in true catarrhal affections the exposure may have been absurdly disproportionate to the severity of the results. Lastly, the constitutional disturbances resulting from such a purely local inflammation are often slight, and they always remain proportionate to the extent and severity of the local disturbance. Local inflammations due to direct exposure of the part attacked to wind or cold often assume an erysipelatous type. Although cognate, they are clinically very different from those of the true (reflex) catarrhal group.

To write an account of catarrhal maladies is not my intention on the present occasion, for it would take much space. It is a subject of the utmost importance and interest, but my present purpose concerns only definitions, and classification, and I must restrict descriptions as much as possible. I will therefore confine myself to a few general propositions. The reader must pardon me if I state these categorically.

1. Our definition of *catarrhal*, as given above, has been an

inflammation excited wholly through the medium of nerve disturbance, *i.e.* in a reflex manner.

2. Such inflammations are always bilateral, never local merely.

3. They are always attended by much constitutional disturbance and preceded by tendency to rigor.

4. In connection with the rigor, although the latter may be very ill marked, there is often herpes of the lips.

5. Different individuals vary very much in their degree of susceptibility to these nervous disturbances, but all are more or less liable.

6. The degree of liability has often nothing to do with the degree of vigour of general health.

7. Not man only, but our domesticated animals also are very liable to suffer from true catarrhal inflammations.

8. A severe catarrhal attack, when once well over, seems to give a period of immunity. This immunity is proportionate to the definite character and severity of the attack. Short and slight attacks give but short periods of immunity.

9. Spontaneous decline and complete disappearance is the general rule in catarrhal affections.

10. Although catarrhal affections decline spontaneously, yet during their decline the patient is often very susceptible, and may from incautious exposure easily incur other risks. The nasal catarrh does not return as such, but pleurisy, bronchitis, pneumonia or enteritis may be set up.

11. In some persons catarrhal affections are provoked very easily and become very frequent; in others, they recur only after long intervals. The degree of severity is often in proportion to the length of the interval.

Thus far I have dealt with catarrhal affections as capable not exactly of "spontaneous" origin, but of origin in connection with physical influences such as cold and damp. I have said that they may be produced in perfectly healthy men and animals, and may now venture to suggest that probably no organisms possessing a nervous system are free from the liability to reflex disturbances of this kind. My next proposition is one of extreme importance, and which may be received with hesitation. It is no less than this,

that inflammations which have originated as described above are capable of generating a contagious materies, and of spreading from person to person by infection. It is difficult in the instance of a disease so common and so very easily originated as common catarrh, to prove that it is ever caused by contagion. I may appeal, however, to a very general popular conviction that "colds go through the house," and to the fact that when colds are prevalent it is common for those to suffer who have not been exposed, so far as was known, to the influences which usually produce them. It is impossible, I may repeat, to give conclusive proof, but probably I shall encounter little scepticism in the proposition that risk attends being in company with a person suffering from a severe cold. If any one should allege that there are two forms of catarrh, one from exposure to physical influences and the other from reception of a vital contagion, then I have to reply that they are in symptoms wholly indistinguishable. They may possibly be quite distinct, but they cannot be differentiated. Not only does general experience uphold the proposition that colds are catching in reference to human beings; but it is a matter of general belief that the colds of cats, dogs, and horses are communicable to man, and that the worst family epidemics of catarrh are those in which the disease spread either from a cat to the household generally, or from a horse to the groom, and from the groom to the indoor servants, and so onwards. These are, it is true, only matters of popular creed, but there is much evidence in their support. That catarrh is contagious in the lower animals, all who have to do with them believe. I have known a whole flock of sheep suffer from it, and numbers of them to show herpes on their lips at the same time. All grooms think that colds may run through the stables.

I have given much attention to the question of the possible contagiousness of true catarrhs, because it is a matter of the widest bearing and importance. If we admit that an inflammation produced in a vitalized organism by a physical and non-vital cause may be attended by the evolution of a materies which has capacity to convey, not a mere imitation,

but precisely the same type and character of inflammatory action we grant that which may be made to explain much that has hitherto been very difficult of explanation in respect to specific disorders (inflammations and fevers). If catarrhs are contagious, no one nowadays will, I expect, be prepared to deny that they are probably attended by the development of microbes which serve as the carriers of the contagion, or the generators in the next subject of the specialized inflammatory action. It is not needful at present to state any creed as to the origin or mode of specialization of these microbes. No theory of spontaneous origin is pre-supposed, and this part of the inquiry may be left aside. It may be well, however, to seek for the theory advanced such support as collateral facts may afford it. We have, it seems to me, in erysipelas a close parallel. Erysipelatous inflammation may originate easily from the direct exposure of a part to cold air. What is called medical erysipelas, or that of the face and head, is constantly so obtained. Some persons have it over and over again, always from some well recognized exposure. Yet this kind of spontaneous erysipelas does not essentially differ from that which attacks wounds. It is as contagious as the latter is both to the individual and to others, and it is attended by the same microbe. Here, then, we have an instance of a disease which originates independently of contagion becoming contagious. It may be suspected that there are many others, and that in fact it is a power possessed by almost all forms of inflammation to develop something which may cause contagion.

To pursue a little further the question of the genesis of erysipelas, let any one reflect on the facts, and I shall be much surprised if he can escape the conclusion that an act of inflammation in some way breeds up a special material for contagion. I do not hint at anything like spontaneous generation, but only at the breeding up or specialization of elements which were no doubt pre-existent. Who can believe that erysipelas is always due to a specific contagium in the sense that smallpox is so? Even if we doubt the contagiousness of medical erysipelas of the head and face from exposure, and hold that it is quite distinct from that which affects wounds,

still what are the facts as regards the latter? It may begin anywhere, on board ship, or in a country cottage, as well as in a hospital, in fact wherever there is a badly-treated wound. That it becomes contagious in a virulent degree, no one who knows anything of hospital experience of it or of spreading puerperal fever can doubt. Were it, however, solely due to contagion, its proper recipients are so sparsely scattered and have now been for many years so well protected, that I cannot but think that it would have died out long ago.

If I may venture to repeat my argument, I would say that it is impossible for any one, however strong his faith in the specific microbe of erysipelas, to place this malady in the same category as small-pox, scarlet fever, or syphilis. Its clinical history, as I have already hinted, is wholly different. We recognize, it is true, epidemics of erysipelas, but they obey laws which are very different from those of small-pox. Were it, like the latter, incapable of spontaneous origin, we might expect that certain districts and countries and certain periods of time would be wholly free from it. No such facts are, however, witnessed. The erysipelatous type of inflammation may occur anywhere and at any time. It is therefore presumably capable of origin, like catarrh, independently of direct contagion.*

The epidemic of "Influenza" through which we have just passed gives point to the preceding observations. The subject of catarrh is in itself however, I must think, of sufficient importance to Englishmen to claim far more attention than it has yet received. Could we rightly name the diseases which bring about our deaths, I doubt whether it would be an over-

* I trust that nothing which is said in the text will lead the reader to think that I place erysipelatous inflammations in the same group as catarrhal ones. They are cited together simply as both giving support to the belief that a contagious material may take its origin in an inflammation not itself the consequence of contagion. In erysipelas, when spontaneous, the cause is direct exposure of the part affected to cold, whilst in true catarrh the exposure is of some other part, and the chain of causation calls into play the reflex functions of the nervous system. In this the two have a definite difference as to mode of origin. It is needless to point out that the course of erysipelas is very different from that of a catarrhal fever. They are, however, alike in this, and both equally differ from the specific fevers in that one attack does not prevent others but rather gives proclivity to them.

estimate to ascribe a third part of the British mortality to catarrhal affections. Although I have distinctly claimed both for catarrh and erysipelas that, beginning from locally applied causes, they may become contagious, it is obviously to be admitted that their infective powers are at the worst limited. We do not witness widespread epidemics of either. Our impressions on this point may be, however, to some extent merely the result of ignorance. It is part of my general argument that the contagious materies may in all contagious maladies be developed under favouring circumstances into specially virulent forms. Thus it may be that the poison of influenza is the same in origin as that of contagious catarrh, but bred up under special conditions to a specialized form. Those conditions may possibly be commenced in a certain race of men, in certain of the lower animals, or under peculiar conditions of atmosphere. It would be wrong to speak of the virus of influenza as being necessarily more virulent than that of catarrh, and many attacks of it are far less serious than many of catarrh from contagion, but it is admittedly much more potent for contagion. Its germs have probably longer vitality outside the body, and may be conveyed in letters, clothing, &c., far further than can the ordinary contagion of catarrh. Hence one of the differences is its power of epidemic and extensive diffusion.* Other differences are, however, conspicuous, and chief among them that influenza has lost to a large extent the tendency to produce the mucous defluxions usually so definite in catarrh.† At the same time the rheu-

† My own experience has been that so far from excessive flow of nasal mucus, the nostrils shared with the skin in dryness.

* Although there may be many who doubt that infection explains all the phenomena of the spread of influenza, I presume that few familiar with the facts doubt that it is infectious. That its poison breeds and increases in the human body there can be no question, and equally little that proximity to a body in which it has bred is attended with special risk. In asserting this it is not necessary to deny the possibility of almost indefinite atmospheric diffusion, although we may think it improbable. For the benefit of those who doubt its infective powers altogether it may be well to recall such facts as the following:—

The Rev. C. S. J. Whitmore records in the article Polynesia (Cycl. Brit.), that he once visited the Ellice group a fortnight after a trading vessel had been there with influenza on board. The vessel had carried some of the natives from

matic part of the catarrhal fever is in influenza much exaggerated, and it is constantly attended by achings in bones, muscles, fascia, and joints.

At this point of my argument a digression may be allowed to consider the question as to whether the Sweating Sickness—"English," as it was christened—was not a form of catarrhal fever, a very virulent influenza in fact. Many of the statements concerning it would support such a proposition. Its chief difference was indeed its high rate of mortality, and this, although common, was not universal. Its onset, like that of influenza, was very sudden, and attended by faintness and giddiness. It was followed by sleepiness—a symptom which has, I believe, been recently often observed in influenza. The danger was over in many cases in two, three, or four days, a point in which the divergence from such fevers as plague, typhus, and typhoid, is very marked. It attacked, seemingly by preference, young and vigorous adults. The profuse sweating which attended most cases might be deemed the analogue of the nasal hyper-secretion in catarrh. Some types of influenza have dry nostrils, and some profuse secretion, and some, I believe, show a tendency, when developed, to free sweating. Hecker, as is well known, was persuaded from similarity of symptoms that the Sweating Sickness was a very acute and brief form of rheumatic fever. In reply to this, however, we know of no form of rheumatism which is supposed to be in any degree contagious.

The short duration of the epidemics of "The Sweat," its sudden onset and rapid and complete decline, as well as its manner and speed of spreading from place to place, are all features in which in the closest possible manner it resembled

one island to another. The result was that on three islands the entire population was suffering from the disease. Writing of the epidemic of 1782, a surgeon who resided at Ipswich records that he went to London, and there fell ill with influenza. He travelled home during the night of the last day in May, being then sickening of it. No cases had as yet occurred in Ipswich, "but a few days after I had several, though none so debilitated as myself." After that it spread through the whole town. See "Annals of Influenza," p. 167.

Influenza in the horse and dog would appear to be closely similar to the human disease, and to have like sequelæ. In the United States it is believed to spread around the foci in which it originates.

influenza and differed from the other maladies with which it has been compared.*

So similar have been some of the more severe epidemics of Influenza to the Sweating Sickness, that they have at the outset been mistaken by those who observed them for it, the mistake being corrected only when the comparative mildness of the malady became evident.

Such being the facts, I feel little hesitation in claiming the Sweating Sickness as, not influenza, but one of the same group—a catarrhal fever become contagious, and therefore epidemic. It does not appear to me to have any real analogies with either typhus or typhoid, and far less with plague.† Such, then, being its suggested position, a few words must be said as to the illustrations which it affords of the laws of the genesis and contagiousness of this class of fevers. Epidemics of the sweat have apparently been repeatedly developed spontaneously. One such, the first in England,‡ beginning in Richmond's army, was within an ace of preventing the battle of Bosworth, and thus crushing in the egg the Tudor dynasty. No one knew how it had developed. During the next half-century both Henry VII. and Henry VIII. had repeatedly to retire to country seclusion in order to avoid it, whilst in every instance its outbreak was sudden and apparently causeless. It spread from place to place so rapidly that people doubted whether it were infectious or "in the air," yet it did not go beyond the British shores until a vessel with a considerable number of young Englishmen on board landed them at Hamburg suffering from the malady, when in the course of a few days it spread to the townspeople.§ The lateness of this occurrence may indicate that

* We may regard the "Picardy sweat" as a mild form of sweating sickness. The Trousse Gallant, a contagious fever which affected chiefly young men (but not exclusively) and was very fatal, was also probably of the same class.

† Kaye and Meade thought it a variety of the plague. Cullen argued in favour of typhus, and Willan held that it might have been due to bad wheat. As I have said, Hecker considers it rheumatic fever.

‡ If the facts were correctly known, it is probable that the sweating sickness had been frequent on the continent before its first accredited outbreak in England in Richmond's army.

§ Surely we can but regard Hecker's argument that the Hamburgers took the

the virus of the disease is of but short life—a supposition which would fit with the rest of what we know. Thus a voyage across the channel had hitherto been sufficient to let it die out. In the case in question, the number of young persons on board supplied precisely the kind of pabulum needed to keep it going by transmission from one to the other till the port was reached, and to land it in a still vigorous condition.

In subsequent epidemics the continent suffered rather widely, but with much irregularity, and when not aggravated by injudicious treatment the fever proved milder than it had been in England.

We may perhaps group the catarrhal fevers as follows:

Primary catarrhal fever of so-called spontaneous origin (that is due to "catching cold"). To this many forms of laryngitis, bronchitis, pleurisy, pneumonia, &c., belong, and it is the cause, especially in those past middle life, of many deaths.

Catarrhal fever from contagion, due not to exposure to cold, but to inhalation of the breath of those suffering from catarrh. Often constituting a house epidemic, but seldom spreading very widely. Often showing certain features of specialization —for instance, sore throats, great debility.

Influenza, in other words, *epidemic catarrhal fever.* Of this disease no two epidemics are quite alike. It occurs in all parts of the world, and sometimes appears to be developed spontaneously.

The Sweating Sickness, a very intense and fatal form of influenza, but far less capable than the latter of rapid and extensive diffusion.*

To these I should much like to add, if I dare, Rheumatic Fever, as being in the main a mode which primary catarrhal fever sometimes takes in those of inherited predisposition to arthritic disorders. As already stated, it, however, never becomes contagious.

Sweat from the fogs of the North Sea, and not from the English ship, as an example of a failure of the logical faculty under the influence of a theory in possession. He is unwilling to admit contagion.

* It must not be forgotten when we contrast the limited spreading of the Sweat in the sixteenth century with what we observe of the influenza now that the freedom of transit from place to place has been enormously developed. Human beings now pass with such rapidity over great distances and with so much ease that the chances of diffusion of an infectious disease are vastly increased.

I am not unaware that in what I have written above I have ventured on an exceedingly difficult subject. There is difficulty alike to thinking clearly and in expressing the results of thought intelligibly to others. My apology for attempting it must be its importance. On all hands the modern pathologist is beset with problems as to the more or less permanent specificity of contagia and their relation to the inflammatory process. My proposition, if I have succeeded in making my meaning clear, has been that contagia possessing a temporary specificity are very easily brought into being in connexion with most types of the inflammatory process. Under certain conditions such contagia may be bred up into higher states of virulence, and then a malady of spontaneous origin, in the first instance, *quoad* contagion, becomes epidemic. It is not difficult under such an hypothesis to see why no two epidemics are precisely the same. The contagion in each has probably but a short life-period, and in the case of common diseases is frequently being renewed. All that is true of epidemics of catarrhal fever, is probably so of such maladies as diphtheria and the like. In the latter we have again a contagious inflammatory process which was developed in the first instance without contagion. The remarkable difference in degrees of severity in different epidemics of diphtheria has often been remarked. To those who insist that the term "catarrhal" shall have no more precise or conventional meaning than its etymological one, what I have written will seem confusing if not absurd. We have, however, in use the two words catarrh and coryza, and my proposal is to designate the secretion of nasal mucus by the latter term, and to give to the former a wider but more specific meaning. Thus we may have a catarrh without coryza, and coryza (as in the case of iodism) without catarrh. The latter term should always imply reflex disturbance and fever.

HYDATID CYST OF ENORMOUS SIZE.

The case which I have to relate is one which deals with the operative treatment of hydatid cysts in the abdomen. It concerns one of the very largest cysts which I have ever seen or of which I have read any account. I was in the first instance consulted by Dr. Kay, of Whitechapel, in the case of a boy who was the son of a friend of his, and who had been brought up from the country, for advice respecting an abdominal tumour. This was about twelve years ago, and the boy was then about twelve years of age. I diagnosed an hydatid cyst of the liver, and advised its puncture with an aspirator. This we did, and drew off about a pint of perfectly clear fluid, respecting the nature of which there could be no doubt. After the puncture the cyst remained for long of quite small size (not larger than a small orange), and we hoped that a cure had been effected. The boy returned to the country, and during the next few years I heard of him occasionally, and always with the statement that he was quite well. Eleven years later, however, he was brought to town again, with the history that for several years past his abdomen had been steadily increasing in size, and that its bulk had now become such as to greatly incommode him. His abdomen now resembled the condition of extreme distension from ascites; it bulged equally in all directions, and fluctuated freely. The distension occurred as well in the upper as in the lower part, and the lower ribs were much lifted. It differed from ascites chiefly in that there was in all portions of the body absolute dulness in front of the abdomen, and a more or less clear percussion note in the back over both loins. He could only just manage to walk about. There was clearly only one measure which could give him relief.

On the day of operation, before proceeding to open the abdo-

men, I tried the use of a large trocar. This let off only a small quantity of fluid, and although I repeatedly cleared the canula with a probe, it was always immediately blocked again. I accordingly made an incision about two inches in length, just below the umbilicus, through the thin abdominal wall. There followed a somewhat extraordinary scene. It was evident that the tension had been considerable, for the fluid was ejected with great force; and the incision was every minute blocked by a loose hydatid. As soon as the finger was used to displace the plug, a jet was thrown up forcibly into the operator's face. We were obliged for some minutes to stand aside from the patient, and cautiously reaching the hand over to displace the cysts with the finger and hold the wound open. The number of cysts which presented was enormous; and they were allowed to escape into a large bath, which was placed under the table. After pouring away the fluid, there remained enough of the cysts to more than fill a large chamber pail. The cysts were of all ages and in all conditions; but most of them were pellucid and tense, and clearly living. When, after considerable patience, we had succeeded in emptying the abdomen, there remained the question—one, it is needless to say, of extreme importance—as to what should be done with the parent cyst. The abdomen was now deeply depressed, the intestines being held back in very small compass close to the spine, and the recently distended parietes lay in loose folds. We could look into the abdominal cavity quite easily, and everywhere it presented a greyish white granular surface. I tried to identify a cyst wall at the under surface of the incision, but quite failed to distinguish anything from the peritoneum, and it became evident when I attempted to peel away the lining membrane of the cavity that I was detaching the peritoneum itself. On introducing my hand and forearm into the cavity, I found that I could pass it upwards under the thoracic parietes until my fingers were only about an inch below the nipple. Laterally the cavity was bounded by a line drawn a little behind the middle of each side, but it dipped deeply down into the pelvis. The liver could be readily felt, but it was covered by the grey granular membrane already mentioned, and nowhere

were any of the viscera to be seen. It was extremely difficult to say whether we were in the peritoneal cavity or in a parasitic cyst. If the latter, it had become extremely thin, and had accommodated itself in the most extraordinary manner to the boundaries of the abdominal and pelvic cavities. If, on the other hand, the cavity was really that of the peritoneum itself, then it was obvious that the intestines had been covered by false membrane, and that a sort of factitious cyst had been developed. It was clear, however, that nothing could safely be done in the hope of detaching such a very extensive and thin-walled cyst, and it was probable that the attempt would not a little add to the patient's risk. We therefore decided to wash out the abdomen and do no more. I may add that by very profuse washing, pouring water very freely from a jug into the cavity, we had taken every precaution against leaving hydatid cysts still in; this had been a matter of considerable trouble on account of the large pouches which the cavity afforded. We had of course turned the patient on his sides and almost on his face. A weak carbolic acid solution had been used for the last washings. Finally, three large drainage tubes passing in different directions into the cavity were secured in place, and this having been done the wound was closed and dressed with iodoform wool. Throughout the operation I had been ably assisted by Dr. Daly, of the Amherst Road, and his partner Dr. Gibbings, who were in charge of the case. It was to the most assiduous care of the former in the after treatment that our patient chiefly owed his ultimate recovery. I will not offer any detailed statement of the progress during the next month. It may be briefly stated that we were obliged to open the whole of the wound on the third day after the operation, feeling sure that the drainage was imperfect. The discharge at this time was large in quantity and of a most disgusting fetor; and we had to wash the abdomen out two or three times a day by pouring in by the pitcher-full a weakly carbolized water. Fortunately the intestines never became in the slightest degree tympanitic. Through the large gaping wound we could for the next fortnight easily look into the abdominal cavity, or what appeared to be such. It was a strange and to me quite unique sight to

see a man lying from day to day with a gaping wound in the middle of his abdomen into which I could easily pass my hand in all directions. In order to ascertain whether any process of adhesion, or of sloughing of cyst, or of contraction of cyst, I did during the next fortnight several times introduce my whole hand. At first we were almost in despair as to whether it was possible for the cavity to close, for it did not seem to contract at all, and nothing appeared indicative of exfoliation of the cyst wall. At length, at the end of about three weeks, we could see that the cavity was very decidedly diminishing, and the quantity of discharge had become very much less. During the whole of this time the patient had been in a condition of great danger from febrile disturbance. He had high temperatures attended with delirium, and had emaciated to an extreme degree. At about the end of the third week his recovery was assured and his progressive improvement was steady. Ultimately the wound closed soundly, and nothing remained beneath it excepting a thickened lump about the size of a fist. The patient returned home into the country about three months after the operation. It is now more than two years since his recovery. I have seen him recently, and may say that he has thoroughly regained his health and experiences no inconvenience from his former disease.

I submit this case to criticism, as regards the measures adopted; and I shall also be glad to gain any further information that can be afforded as to the probable condition of the cyst wall. Is it probable that the hydatids were loose in the abdominal cavity, or that they were still contained in a thin mother cyst? If the latter hypothesis is adopted, what are we to suppose became of the cyst during the process of healing? Apparently the healing was by the formation of adhesions between the opposed walls of the cavity, the process of adhesion beginning at the peripheral parts of the cyst. At no time was there any evidence whatever of exfoliation of parasitic cyst wall. It is difficult to believe that the interior of a parasitic cyst would have granulated and formed adhesions. There is no doubt that the majority of the cysts at

the time of the operation were living, and the fluid in which they floated, although somewhat opaque and whey-like, showed no signs of decomposition. I feel quite satisfied that no other line of treatment was open to me than that which was adopted, and feel sure that it would have been quite useless and probably harmful to have attempted to remove the hypothetic cyst. It is an obvious remark that earlier treatment would probably have been attended by much less danger. It was the enormous size of the cyst which made the case so formidable.

The case further illustrates the fact that in some instances what appear to be cures of hydatid tumours by simple paracentesis are not always such. In this instance the tumour did not begin to refill after the first tapping for several years; and we thought the patient cured. Its increase was afterwards very slow and insidious. I have published many years ago several cases in which I believed that cures had resulted from simply drawing off the fluid from hydatid cysts. With the light thrown upon the disease by this case, however, I cannot but admit that it is very possible that in some of these the disease may have relapsed.

DISEASES OF THE ARTERIES.

No. I.—*On a peculiar form of Thrombotic Arteritis of the aged which is sometimes productive of Gangrene.* (*With Plate.*)

We have long been familiar with a form of phlebitis to which the term thrombotic is applicable, since its chief phenomenon is the coagulation of blood in the vein and the subsequent obliteration of the latter. It occurs chiefly in veins which have been already dilated and are more or less varicose. The process of plugging may extend through a very considerable length of the vein, and it is usually attended by conditions more or less marked which imply implication of the coats of the vein and of the cellular tissue surrounding it. There is considerable swelling, great tenderness, and often very decided congestion of the overlying skin. This form of phlebitis entails not the slightest risk of pyæmia; all that follows is permanent obliteration of the vein involved, and this possibly is by no means universal. Now and then, in very rare cases, portions of the thrombus may be detached, and, passing upwards in the current of the circulation, reach the heart. It is generally believed that this condition is usually associated with gouty tendencies, and although there are exceptions, this is probably true of the majority of cases. We study the phenomena of this form of phlebitis chiefly in the superficial veins, and probably it is more common in them than in the deeper ones, since a pre-existing varicose state is important as disposing to it. No doubt, however, the deeper veins sometimes suffer, occasionally even the very largest.

My object in the present paper is to ask attention to certain facts which seem to suggest that the arteries are liable to a

parallel form of disease—one, namely, in which there is a spreading plastic inflammation which glues the artery to its sheath, and at the same time produces thrombotic plugging of the vessel, to be followed by permanent obliteration. This form of arteritis occurs, I believe, most often in elderly persons, or, at any rate, in those past middle life; probably it never happens to arteries which are perfectly sound. I do not, however, feel in the least sure that the advanced calcareous degeneration of old age is a frequent predisponent. In the case which is the principal subject of the present paper, although the patient was advanced in years and the arteries not sound, yet they were not calcareous. There is no proof, nor, I think, much probability, that anything of the nature of embolic plugging precedes this condition of thrombotic arteritis. It is very difficult indeed to say what its initial stage is, and I may remark that it is equally so in the case of thrombotic phlebitis. Whether the first change is coagulation of the blood or an inflammatory thickening of the vessel-walls cannot easily be proved; my own belief, however, strongly inclines to the latter opinion. As in thrombotic phlebitis, so in this affection there is a certain amount of evidence in favour of the belief that a gouty state of constitution may predispose to its occurrence. Opportunities for proof of thrombotic arteritis are, as we might expect, far less common than their parallel in the case of the veins. Many of the latter run superficially, and are easily examined, whereas most of the arteries are more or less deeply buried and cannot readily be felt; nor is it very often that we get the opportunity of dissecting a limb after the patient's death. The disease which has been named arteritis obliterans is, I believe, usually one of somewhat slow progress, and is not supposed to be accompanied by thrombosis, whereas the condition to which I now wish to draw attention is one of rapid development, and has for its principal feature thrombotic occlusion of the vessel implicated.

The principal facts bearing upon the statements just made will be taken from a case recently under my care and in which I have had an opportunity for dissection. Before proceeding, however, to narrate it, it may be convenient to

mention one which came under my notice many years ago, and which first drew my attention to the subject. In it I had no opportunity for dissection of the vessels, but an unusually good one for observation of the phenomena during life. The subject of this case was an old man named Rumbold, the father of a well-remembered beadle at the London Hospital College thirty years ago. He was a tall, fine-looking man, rather thin, and quite bald. He had been a gentleman's servant, having lived in the family of the Earl of Dundonald, and he had, I believe, suffered from gout. At the time that I saw him he was living with his son near to the London Hospital College. He was upwards of eighty, and almost in his dotage. I was asked to see him because, as I was told, he had red "streaks on his head" which were painful and prevented his wearing his hat. As I have said, he was bald, and his scalp was thin. The "red streaks" proved, on examination, to be his temporal arteries, which on both sides were found to be inflamed and swollen. The streaks extended from the temporal region almost to the middle of the scalp, and several branches of each artery could be distinctly traced. The conditions were nearly symmetrical. During the first week that he was under my observation pulsation could be feebly detected in the affected vessels, but it finally ceased; the redness then subsided, and the vessels were left impervious cords. At no time was any gangrene of the skin of the scalp threatened. The old gentleman lived, I believe, several years after this without any other manifestation of arterial disease. It was thought that the pressure of his hat on his temples had been the exciting cause of the arteritis. At any rate it was on account of the tenderness produced by the hat that he first sought advice. We appear to have in this case an unquestionable example of an arteritis which spread along the affected vessels, causing swelling of their external coats and adjacent cellular tissue with congestion of the overlying skin, and which resulted very quickly in occlusion of the vessels. It is not proved that there was any thrombosis; it is, indeed, certain that in the first stage there was not. I am not able to state whether the final stage of plugging occurred suddenly or not. That there was no

gangrene of the skin supplied is not perhaps very surprising when we remember the other smaller sources of supply which the scalp possesses, and reflect that it probably needs a very small quantity of blood to keep it alive. Had similar changes occurred in the main arteries of one of the limbs the result might have been very different.

It may perhaps be reasonably suspected that a certain number of the more acute and rapidly-spreading forms of what is called senile gangrene are dependent on the kind of thrombosis which I am about to describe. The more chronic cases in which the gangrene begins at the tip of one toe and spreads very slowly in the course of months are probably usually in connection with advancing calcification of the vessels without either embolism or thrombosis. Many dissections in such cases have at any rate proved the negative as regards any extensive plugging of the vessels. It is quite possible, however, that in some of these cases thrombosis may occur as a complication, and may explain sudden increase of the gangrene.

The particulars of the case which has led me to make the preceding remarks are as follows:—In December of 1889 I saw, in consultation with Dr. Patten, of Ealing, an old lady of 74, who was suffering from gangrene of her left leg. She had been seen on the previous day by Sir James Paget, who had advised immediate amputation, and been good enough to suggest that I should be consulted. Our patient was one of a family remarkable for good health and longevity, but with some tendency to gout. She had herself been of very vigorous habits up to the date of her present illness. Her present attack had begun by very severe pain over the region of the liver, and she had been for a week or two confined to bed with symptoms which might be supposed to indicate the presence of gall-stones. It was just as she was well recovered from this illness that the gangrene of the foot commenced. The latter might be described as almost of an acute kind, for it had been present only ten days when I saw her, and already all the toes were dusky and livid, and a large patch of the skin on the front of the leg was in the same condition. The whole leg nearly up to the knee was somewhat swollen. The tempera-

ture of the foot was considerably lower than normal, but the parts were not absolutely cold. The threatening of sphacelus on the skin of the leg itself of course separated the case very definitely from the more ordinary forms of senile gangrene. There was no tendency to mummify in any part, the process being attended rather by slight general œdema. The whole limb had ached much, and had caused the patient to be very restless. Possessing great determination of character, she had even up to the time of my visit refused to be confined to bed, insisting that her leg was more comfortable when she was up. Her pulse was quickened, temperature 100, and there had been some tendency to wandering at night. Such being her condition, I could but express a very unfavourable opinion as regards her prospects. It was clear, however, that she must sink very soon unless the limb were removed, and it was therefore agreed that we should give her such chance as an immediate amputation afforded. To this, after all had been explained, both she and her friends willingly assented, and the amputation was done the next day. I should have said that pulsation could be detected in her femoral artery, but not in her popliteal.

The amputation was done in the lower third of the thigh, an Esmarch's elastic band being used as tourniquet. The femoral artery was found to be somewhat rigid, but not calcareous, and, having been first twisted and then carefully tied with catgut, scarcely any blood was lost. The stump was dressed with carbolic gauze, and when the patient was returned to bed she was in a very satisfactory condition. I did not see her after the operation, but continued to hear from Dr. Patten very favourable reports of her progress. Nothing had occurred to suggest the desirability of dressing the stump, and the temperatures were normal. On the seventh day after the operation, when it had been arranged that we should meet for a first dressing, I was disappointed to hear that our patient had been suddenly taken much worse and was not likely to live. A subsequent telegram informed me she was dead, and our consultation accordingly did not take place. An examination of the body, which was made next day by Dr. Patten, seemed to suggest the probability that a

return of her gall-bladder irritation had been the cause of her fatal collapse. The latter had been preceded by delirium, pain and sickness, and a large gall-stone was found plugging the cystic duct. The gall-bladder was immensely distended. The condition of the stump was satisfactory. There had been no hæmorrhage and no gangrene of the flaps.

Examination of the limb.—On dissecting the limb after removal we found both the anterior and posterior tibial arteries firmly plugged with clot of some standing. The clot extended upwards into the popliteal, where it adhered but loosely to the arterial coats, and ended in a sort of cone. The vessel which is represented in section in the drawing is the anterior tibial, and by its side two large plugged veins. At this part, as will be seen, the clot is very firm, completely fills the vessel, and adheres to its walls. The occlusion here was absolute, and this condition involved almost the whole length of the anterior tibial with its branches. The veins also were completely plugged by firm adherent coagula of some standing. In the upper part of the posterior tibial the whole of the popliteal and the lower part of the femoral the clot did not adhere closely to the walls of the vessel, and in some parts did not occupy the whole of its calibre. The arteries involved were everywhere more or less adherent to their sheaths and to the adjacent veins. It was much more difficult than usual to dissect them cleanly out. The conditions which I have described are well illustrated in the accompanying drawing, which shows the artery laid open from the point where it was cut in the amputation to the upper third of the posterior tibial. The vessels seen in section are, as already stated, the anterior tibial and its veins. The long trunk is the posterior tibial. Owing to changes which occurred after the vessel was cut open and put in spirit, the artist has not represented the clot as nearly so large as it appeared at first. It had become loosened in many parts from the lining of the vessel to which in the first instance it adhered.

The coats of the affected vessels were everywhere thickened, and showed dense yellow patches, but there was little or no actual calcification.

Nothing resembling an embolus was observed; certainly

PLATE LIII.

THROMBOTIC ARTERITIS.

This Plate shows, first, the popliteal artery from place of section in the amputation, secondly the posterior tibial laid open longitudinally, and lastly a transverse section of the lower part of the anterior tibial with two large veins. In the last both veins and artery are seen to be firmly plugged, and the latter contracted. In the vessels laid open lengthwise it will be seen that the thrombus does not fill the entire calibre and in most parts appears to adhere but loosely. As explained in the text the clot had become detached somewhat by handling, &c., before the specimen was put into the artist's hands.

PLATE LIII.

THROMBOTIC ARTERITIS.

This Plate shows, first, the popliteal artery from place of [illegible] to the amputation, secondly, the posterior tibial laid open [illegible], and lastly a transverse section of the lower part of the posterior tibial with two large veins. In the last both veins and [illegible] seen to be firmly plugged, and the latter contracted. In [illegible] laid open lengthwise it will be seen that [illegible] fill the entire calibre and in most [illegible] adhere [illegible] by handling, &c., before the specimen was put into the [illegible].

West, Newman, chromo.

there was none between the point of section and the plugged vessels.

It would seem in a high degree probable that the plugging was advancing up to the time of the operation, and that it began in the lower branches of the anterior tibial. Had it existed long in the state found, the whole limb must have quickly passed into the most definite sphacelus. The occurrence of gangrene in the front of the leg simultaneously with that of the toes is well explained by the conditions displayed in the dissection.

No. II. — *Anæsthesia ab imo* (*Arterial Anæsthesia*).

I do not know whether the following law in diagnosis has ever been formulated, nor indeed am I confident that it ought to be. It seems, however, worth consideration.

When anæsthesia begins at the ends of all the digits, and passes upwards in the hand or foot to a certain ill-defined level which might be marked off by a circular line round the extremity, the loss of sensation is always due to an arterial cause and not to nerve disease.

Under such circumstances the loss of sensation is rarely quite complete, though it may be almost so. The line of demarcation is never well defined. There is seldom any sensation of pins and needles, but simply a dead sensation with coldness. The best illustration of it which I could give occurred in an old gentleman who had (unsuspected) a small popliteal aneurism. He had been plagued for three successive nights with severe cramp in the calf and foot; suddenly one night the cramp ceased and the toes became quite numb and dead. The deadness extended to the middle of the instep, and was almost absolute. He was greatly alarmed, and called up his surgeon, who found that his tibial arteries did not beat. Very gradually in the course of some weeks the sensation returned, but when I saw him six months later there was still no pulse in the arteries. The whole foot was pale. The remains of the

shrivelled aneurism could be felt, and he had, without having the slighest suspicion of it, a considerable aneurism in the popliteal space of the other limb. I mention this latter fact in order to corroborate the diagnosis.

This form of anæsthesia is common after ligature of arteries.

There is a form of anæsthesia of this kind which is transitory and recurrent, a close ally of Raynaud's disease. There is also a form of cold sweating of the toes and distal part of foot which is transitory and recurrent, and is probably in association with arterial causation. My point is that whenever subjective sensations, numbness, coldness, &c., affect all the digits equally, without regard to nerve supply, the condition is usually due to want of blood.

No. III.—*On some cases of Obscure Pain in the Feet, probably in connection with Peripheral Arteritis.*

I have had under care at different times some very peculiar and troublesome cases of unexplained pain in the feet, which incapacitated the patient, for longer or shorter periods, for all exercise. Two of these are so similar in their principal features that they seem worth narrating side by side. The first of them was a man upwards of seventy, apparently in good health, and although somewhat gouty, not so in any remarkable degree. He had consulted several medical men before I saw him, and had failed to get relief from pain in the insteps, which quite prevented his walking. It was brought on by all exercise, however slight. One foot was much worse than the other, but both suffered. I could find neither swelling nor tenderness. The liability had lasted more than a year. I thought it very probable that he had advanced arterial disease, and advised the utmost care in reference to the prevention of senile gangrene. I will leave his case for the present (not having the notes before me), and will narrate that of a gentleman whom I have just seen.

No. IV.—*Long persistent liability to Pain in the Feet during Exercise, in a robust, middle-aged man.—History of Spontaneous Gangrene of One Toe.*

Mr. H. F——, a gentleman aged 52, single, a decided hypochondriac, announced himself to me as of "gouty diathesis and weak portal system." His chief complaint was, however, of "lameness in his feet," and from this he had suffered for fifteen years. The pain began in the soles of his feet, and if he walked fast it passed upwards from them into the calves of his legs. It almost wholly incapacitated him from walking. He was comfortable if at rest, and could ride on a tricycle. He could manage to shoot a little, but could only go out alone, as the pain in his feet often obliged him to sit down and rest every half-hour. Although, as he said, he had suffered from this pain for fifteen years, it had not been continuous through the whole of this time. It had been much worse during the last six months than ever before. My examination of his feet revealed nothing peculiar, excepting that there were a number of small blue varices just above the roots of his toes and that the skin looked mottled and showed pigment spots. He complained that his feet were constantly cold, but at the time that I saw him there was nothing special to be noted in this respect (it was a very warm day). Mr. F—— was a man of large frame, florid, and looking perfectly well. He gave me his history in a very disconnected manner, and it was difficult to arrange it clearly. That there was something seriously amiss as regards the circulation in his feet was made quite certain by the fact that he had lost the end of one great toe by gangrene. His statement was that in March, 1878 (when he was only 41 years of age), a spot formed on the tip of the great toe, which slowly advanced to gangrene. He was in bed six months with it, and finally spontaneous separation took place. After the gangrenous part had separated the sore would not heal, and he spent a year under the treatment of Dr. Penhall, at St. Leonard's. During the course of the treatment he saw Sir James Paget, Mr. Le Gros Clark, and Sir Prescott Hewett. It was not until

three years from the beginning that the toe became sound again. On one occasion an incision was made in order to remove, as he believed, a sloughing tendon. The cicatrix, when I examined the toe (ten years after the attack), was quite sound, but there was a little spot which had recently formed above it, about which he was very anxious. He appeared to have lost the last phalanx and the whole of the pulp of the toe; but a small portion of the nail still remained. The pulse at the wrist was of good volume but rather hard. There was no evidence of calcareous deposit in the arterial coats. His ankles were a little puffy, and I could not easily examine his tibial arteries. I did not succeed in detecting pulsation in any one of them. The result of my investigations made it probable that he had repeatedly suffered from venous obstruction in the lower limbs, but never from anything very definite. He had once had gonorrhœa, and probably syphilis. The chief evidence as regards the latter was liability to periostitis of one tibia. He had never had a definite attack of gout, but had several times passed gravel. His mother had had true gout. He had on one occasion been sent by Sir A. Garrod to Aix-la-Chapelle. He was there under the care of Dr. Brandis, who, however, declined to rub in mercury.

My impression is that in this case the pain and aching in the feet is in connection with vascular obstruction, venous or arterial, possibly both, and not with any joint disease. There is no evidence of the latter in any articulation, nor is the pain produced by sudden movements. He can always walk a little way, but the more he walks, the more severe becomes the aching in his feet and the more it tends to extend to his calves. Spontaneous gangrene of a toe in an apparently healthy man of not more than about 40, is a very rare event. It may be suggested that it was in this instance caused by a condition not wholly dissimilar from Raynaud's disease, and in support of this is the fact that his feet were always cold. It must be remembered, however, that only one toe was attacked, that no general asphyxia of the extremities had ever been observed, and that his hands have never suffered at all. I am inclined to suspect that some definite condition of arteritis of the small vessels leading to

occlusion was its most probable cause. This arteritis was probably of syphilitic origin. I published many years ago a case of threatened gangrene of a finger, preceded by great pain, in a gentleman of middle age who had had syphilis. In this instance I ventured to diagnose syphilitic occlusion of arteries. A parallel case has since been published by Dr. Hermann Klotz of New York, who adopts the diagnosis, and gives valuable facts in confirmation of it.*

No. V.—*Cases showing the usefulness of the Iodide of Potassium in internal Aneurism.*

At the March meeting of the Northumberland and Durham Medical Society, two patients were produced by Dr. Limont whose cases are well worth the consideration of those who advocate extreme surgical measures in the treatment of internal aneurism. In one the aneurism was believed to involve the lower part of the abdominal aorta. The man had been before the Society on a former occasion, the interval being *two years and three months*. During this period he had been taking the iodide of potassium fairly regularly in twenty-grain doses, and had been getting about with but little discomfort. In the first instance he had narrowly escaped a ligature of the aorta.

Dr. Limont's second case was one of a large aortic aneurism in a man of 61. It projected visibly in the spaces of the second, third, and fourth costal cartilages. Three years ago he had been in the Hospital for three months under treatment by the iodide and rest. Such benefit was then obtained that he returned to his home and resumed his work, and remained for *two years and a half* without inconvenience. At the end of this time the relapse occurred which had again brought him under care.

[I abstract these cases from the concise and brief but very valuable reports published quarterly by the above-named Society.]

* See "American Journal of the Medical Sciences," August, 1889.

A REMARKABLE CASE.

POSSIBLY ALLIED TO SCLERODERMA OR DIFFUSE MORPHŒA.

Patient a healthy young man of feeble circulation—A protracted febrile illness diagnosed as typhoid—Diarrhœa and blood in stools—Formation of large indurations in the skin diagnosed as erythema nodosum—Ulcerations on the hands and feet—Recovery, with persistent induration in large patches of skin—Dusky and much scarred hands—A temporary proptosis of one eye—A second much milder febrile attack one year after the first—Evidences of family tendency, two sisters also presenting peculiarities as regards their circulation. (With Plate and Temperature Chart.)

The case which I now publish in detail is the one to which I briefly alluded in the last number of the Archives (see p. 271). I then mentioned another which in some of its features, but by no means in all, is a parallel to the present one. I know of no others which can be placed with them. The case now to be described presents so many features of peculiarity, that I find it exceedingly difficult to write a narrative which shall be intelligible to the reader. The patient had a very long febrile illness, supposed to be typhoid fever; during this illness he had great bumps or indurations form in the skin of various parts, which, as they subsided, left hardened patches. The illness was attended by ulcerations on the extremities, which left his hands and feet dusky and covered with scars. After apparent recovery from the four months' fever referred to, he became the subject of some inflammatory effusion into one orbit, and his right eye was pushed out. At this juncture he was passing uric acid in very large quantities. A year later he had another febrile illness, but not of so severe a character.

To this complicated statement of conditions, without any obvious connection with each other, I have to add that two of his sisters have shown similar, but far slighter, proclivities as regards ulcerations, etc., on the hands. It will be seen that this family tendency might suggest an inheritance such as that which is responsible for Kaposi's disease, whilst the state of the circulation of the hands is strongly indicative of Raynaud's phenomena. What are we to make, however, of the prolonged febrile disturbance and of the indurated patches which have developed under the skin of various parts? What, also, of the temporary proptosis and of the lithiasis? I shall not make any attempt at a diagnosis if by that term we are to imply the giving of any name to the condition. It would be sufficient for the present to suggest that in all probability the patient does inherit definite peculiarities as regards his circulation and nutrition of tissues, giving proclivity at once to the peculiar phenomena both of Raynaud's and Kaposi's maladies; that his febrile attacks were possibly of the nature of a lymphatic inflammation of the skin, very peculiar, but not wholly without alliance with erysipelas, and that his proptosis was of the same nature. In using the term erysipelas here I mean only an infective and spreading inflammation of lymphatic spaces attended with fever; of course if the form of inflammation were erysipelatous in this instance, it was widely different from the ordinary types of erysipelas. It will be well to remember in this connection that some cases of diffuse scleroderma are initiated by a febrile attack attended by slight œdema of the skin. In the present case some of the indurated areas which still remain hard are not unlike the conditions of scleroderma. There is also reason to believe that some of the lymphatic trunks are involved in the disease, although there has been from first to last no enlargement of glands.

Having given the above general sketch of the case, I will now proceed to details by recording the description of the patient's condition in June, 1889. At this date the patient was first sent to me by Dr. Crabb, of Holloway, to whom I am indebted for permission to publish a case in which he had taken the utmost interest.

Description of condition presented in June, 1889.

Mr. G—— is of rather dark complexion, fairly healthy looking, but of thin features. The skin of the cheeks can be pretty easily pinched up. His ears are very thin, and their edges look as if they had been gnawed; they are dusky and show stigmata. The lobule of the right ear is swollen and dusky. Near to the outer angle of the right eyebrow are three little patches which are erythematous and slightly thickened. The middle of one of these is pale and almost tallowy. The chief conditions of disease are, however, shown in his hands and forearms. The extremities of all the digits are glossy, and covered with thin scars and ill-defined patches of congestion. The pulps at the ends of the fingers are much thinner than natural. The nails are thin, their edges broken away, and their substance somewhat fibrous and opaque. The palmar aspects of the digits are seamed all over with scars. The skin of the palm, more especially near to the wrist, is healthy. The skin of the right forearm looks tallowy and pale, and in many parts thick ill-defined plates of induration involving the deep layers of the skin, but freely movable on other parts, can be felt. These, he says, are the remains of the "erythema nodosum." Exactly similar but slighter conditions can be felt in the skin of the other arm, but they are chiefly marked on the lower part of the forearm near to the wrist. The two hands are almost exactly alike. In both, the skin and the back of the digits near to the nail is in a state of thinnish scar. The skin of his body generally is somewhat mottled and tallowy, but in a very ill-defined degree, and on some parts of the abdomen there are patches of induration. There is a lump in the epididymis and lower part of vas defenens which is very like a mass of tubercle. He has known of this last condition for only a few months.

He has just recovered from an illness which he describes as his "fever illness." There is no anæsthesia of any part. His feet are in much the same condition as his hands, the skin of the leg in the lower third has become hide-bound and tight, and a considerable scar has formed, although, as he says, there never was any ulceration. The skin of the foot below

PLATE LII.

MR. G —— 'S HAND.

This Plate shows the condition of Mr. G——'s hands on his recovery from the febrile illness, and as they still are at the present time. It will be seen that they are dusky and covered with little scars. The latter are most abundant on the fingers and backs of hands. It is very possible that the conditions shown may have been, in part at least, present before the severe febrile illness which constitutes the first and principal event in the case-narrative. They are not dissimilar from those present in less degree on the hands of his two sisters.

it on the dorsum is not in the least affected, and he describes the condition referred to as having began in a belt of dusky red skin, which felt tight, and at one time prevented him from walking. It began in July of 1888, when he was suffering from erythema and before the fever set in.

Facts as to early life.

His father is said to have suffered from an eruption on the hands when he was young, but is believed to have got well at the age of 44; and two sisters are said to have had something of a similar kind (see further note, p. 341).

As a boy at school, he recollects that he could scarcely write in cold weather. He does not recollect that he was subject to any breakings out when young. In summer he used to be fairly well, but in winter was always delicate. He says that he used to easily get warm with exercise and perspired freely, and that after exercise his feet used to get damp, his hands and feet used to turn blue with cold, but did not turn white or dye. He was engaged for fourteen years in an office at the Euston railway station, and suffered much from cold. He has had good health throughout life, excepting the ailments described.

Details of the first febrile illness (*see Temperature Chart*).

The history of the febrile illness is that it began about the 14th of October, 1888, and Dr. Crabb's temperature chart commences on its fourth day, the 18th of the month. On this day, although the evening temperature was 104°, the appetite was not much impaired, the pulse was only 96, and he slept fairly. On the next day he had some tendency to faint. In the early part of his illness he was costive rather than otherwise, but during the first week of November his motions were slightly loose and occasionally contained blood. He had been seen in consultation, in the early part of October, by Dr. G——, and the notes state that "although appetite still remains good and there is no diarrhœa, the diagnosis of typhoid fever is given in the absence of any local inflammation to explain the high temperatures. No typhoid spots have been observed." On

November 21st it is noted "that his bowels are again very costive, and the motion again contained blood." On November 30th "there was again blood in the motion, and he had a slight rigor." On December 3rd Dr. L—— B—— saw him, and confirmed the diagnosis of typhoid; he was now sleeping well, and not taking antipyrin. On December 9th there were erythematous nodules on the face, almost closing up one eye; a little cough. On December 11th the bowels were a little looser, and there was again some blood. On January 5th antipyrin, which had been left off for a week or two, was again given. During the next two weeks the state of his bowels varied, there being sometimes diarrhœa and sometimes constipation. On February 5th Dr. L—— B—— again saw him, and in default of any other plausible diagnosis still maintained that of typhoid fever. He had hitherto been kept chiefly to milk diet, but was now allowed some Valentin's meat juice. After this there was constipation rather than otherwise. On March 12th a rigor occurred. On March 14th he became liable to profuse perspiration, which occurred generally twice a day after the antipyrin, and this liability continued very definitely for a fortnight.

It was during the relapse in February that "erythematous bumps" were first noticed in various parts of his body. These came out with a feeling of coldness but without definite rigor, and continued for about a fortnight. On April 29th it is noted, "Erythematous bumps still visible on arms, but evidently fading."

The temperature chart of Mr. G——'s febrile illness, which has been given to me by Dr. Crabbe, shows, that from the middle of October to the end of March it never fell to normal. During nearly the whole of this time it was generally considerably above 100°, on three or four occasions above 104°; and very frequently at 103°. The evening temperatures were always the highest, and it is to be noted that the variations, although considerable, were not usually very sudden. After the five and a half months' of maintenance of the elevations which have been mentioned, the temperatures fell on March 28th to normal, and during the next ten days continued either normal or below the line. On March 7th,

however, the evening temperature again began to rise, and increasing almost steadily from day to day, reached nearly 104° on the evening of the 21st. After that date it gradually fell, touching normal on the morning of May 1st, remaining then for a week low in the morning and high in the evening, and finally sinking on the 10th to a condition of normal every evening and 1° below it every morning. From June 2nd to the present time (September) it may be considered to have been normal, and during the period of the proptosis about to be described no exacerbations have been observed.

Account of an attack of one-sided proptosis.

In the middle of September, 1889, Dr. Crabb again sent Mr. G—— to me on account of a new symptom. He was at this time feeling well, and had no increase of temperature; but his right eye was becoming prominent, and the conjunctiva was congested. I saw him at different times repeatedly during the next month, and had photographs taken which well exhibit the prominence of the eyeball. It was at one time very considerable, and was attended by some swelling of the conjunctiva, with vascularity and slight serous chemosis. There was never any pain, nor could any tumour be detected behind the eyeball. The globe was simply pushed straight forwards. The treatment adopted was by the use of iodide of potassium and small doses of mercury, and under this in the course of about six weeks the congestion of the conjunctiva had disappeared, and the eyeball had pretty much returned to its proper level. The ophthalmoscope had never detected more than fulness of the retinal veins.

My next note refers to his condition at the time that the proptosis was disappearing.

Detailed description of his condition in October, 1889.

I had an opportunity for again examining Mr. G—— on October 29th, and on this occasion in the presence of my friend Dr. Pringle. We had him stripped. The proptosis had at this date almost disappeared, and the patient expressed himself as feeling well. The treatment during the last month had been perchloride of mercury and iodide of potassium.

The state of the hands and feet was much as it had formerly been. They were mottled all over with scars and stigmata, but there was no existing inflammation or eruption. The skin in various parts of the body and limbs presented indurated patches of infiltration. Some of these were nearly as large as the palm of the hand, and felt as if from a quarter to half an inch in thickness. They were for the most part not in the least raised, and were indeed not to be detected by the eye, otherwise than that they gave to the skin generally a somewhat lumpy and indurated appearance. They were best detected by passing the open hand lightly over the surface. It was the skin itself which was chiefly involved, but the subcutaneous tissue was also implicated to some extent. On the front of the right leg, over a considerable extent the skin was distinctly hide-bound and tight, and a little glossy; but for the most part this was not the condition presented by the indurated patches; the latter being movable on the parts beneath. The masses of induration were for the most part symmetrically arranged: thus, for instance, there were two precisely similar ones on the sides of the abdomen level with the umbilicus. On the face the symmetry was not exact, for over the right malar bone the skin was tight, hide-bound, exactly like that of diffuse scleroderma, and without thickening; while on the left there was a patch of movable induration the size of a child's palm. Patches of lumpy thickening were very definite on both wrists. There was no enlargements of lymphatic glands anywhere, but Dr. Pringle agreed with me in the belief that we could trace cordy lymphatic trunks irregularly enlarged and here and there lumpy on several parts, more especially on the arms. The ears were speckled over with little scars and stigmata, just like those on the hands, but there was no extensive erosion. The patient at this time, although considering himself quite well, had a pale and somewhat cadaverous aspect. He was thin, but not losing flesh. He had noticed lately that his urine had deposited a red sediment, and brought me, instead of a specimen of it, a little packet of uric acid sand, from the quantity of which it was to be inferred that he was passing the acid very freely indeed. He told me that two of his sisters

were suffering more or less from their hands, although the weather had not been as yet at all cold.

Facts as to a relapse of febrile illness in January, 1890.

In January of the present year Mr. G—— experienced some return of febrile symptoms, and complained of weakness in his legs, and at the request of Dr. Crabbe I procured his admission into the London Hospital, where he remained from January 10th to February 14th under the care of Mr. Treves. The following is a summary of my son's notes as to his symptoms during that time. He complained that, when walking, his legs had occasionally felt as if they were paralyzed and would give way under him. This sensation he had never experienced in his arms. During the five weeks he was in the hospital his temperature was always above 100° in the evening and occasionally as high as 102°; but usually, though not always, it came down to normal in the morning. A small abscess formed in the right index finger during his stay in the hospital, but it was too small to have had anything to do with the persistently elevated temperatures. The prominence of the right eye was at this time scarcely observable. The description of the state of his skin, and the subcutaneous nodules and indurations as noted by those who investigated the case in the hospital, does not differ materially from that which I have already given, and need not therefore be repeated. A curious cord-like induration on the face, extending from the left malar bone to the lower border of the inferior maxilla, especially attracted attention, and it was noted that there was another beneath the scrotum on the left side. His urine was at this time repeatedly examined, and was never found to contain hæmoglobin, nor indeed anything abnormal.

Facts as to Mr. G——'s sisters. His sister's state in July, 1889.

Mr. G—— brought me one of his sisters (July 28th). Her hands presented precisely similar conditions to his own, but in a very minor degree. Her fingers showed many little

scars, but were not now inflamed. The lobule of the right ear was thickened and dusky.

The liability to inflamed hands began with her at the age of 14, and is increasing in severity each winter. It has never as yet quite disabled her. She has the appearance of good health, is florid, and well grown.

Mr. G——'s two sisters came for inspection for a second time on November 3rd, and as the opportunity offered they were seen also by Dr. Radcliffe Crocker, Dr. Stephen Mackenzie, and Mr. Malcolm Morris.

On the hands of both, although the weather had been very warm for the time of year, there were many large erythematous patches. These were most numerous on the fingers, and in one of the sisters the fingers were almost covered. They much resembled the condition seen in lupus erythematous, being more superficial and more widely spread than is usual in chilblains.

One observer thought that some of the patches were like erythema iris, healing in the centre and spreading at the edge, but this condition was not well marked. Both girls said that their hands were much worse now than they had been in the summer, and spoke of the condition as a variable one, without associating it with any season in a definite manner. No other parts excepting the hands had suffered. Both had been liable to the condition for some years. Although the condition was not exactly like that seen in their brother, yet it was clearly of similar nature. We must, I think, admit the proof that three members of the same family are liable to a very peculiar erythematous inflammation of the hands. Thus we have to do with "a family disease," and in this feature the cases come into the category of Kaposi's malady. The severer illness which the brother has suffered must be investigated with this fact of family proclivity kept well in mind.

Comments.

I will not add anything to the necessarily prolix account of this remarkable case, having already commented sufficiently upon its peculiarities. The reader may perhaps

turn with advantage to the details of two cases given in the first number of my ARCHIVES (see p. 21), in which an aggressive and finally fatal cachexia was attended by failure of the circulation in the hands, and conditions resembling chilblains. In one of these a long febrile illness occurred with very peculiar changes in the integument of various parts. These cases, however, do not present close parallels to the present. The one to which I have already referred Dr. Carrington's patient is nearer, though still far from being identical. Concerning Mr. G——'s present condition I may say that since the last notes he has, I fear, not improved, and that he is at present in a very feeble state.

The condition of transitory and apparently inflammatory proptosis which occurred is so unusual, that I think it worth while to mention here another example of it. We know nothing as to the physical cause of this form of proptosis.

Case of one-sided Proptosis in association with a chronic skin eruption—Cure by iodides—No syphilis.

The following account of a temporary attack of one-sided proptosis was given me by the patient two years after its occurrence. He was a gentleman of 40, of gouty tendencies, and the subject for ten years or more of a most inveterate skin disease (eczematous). Colonel F. G—— had never had syphilis. Ten years ago he began to suffer from eczema, and he has since been under the care of specialists in all parts of Europe. In spite of an almost universal dermatitis he retains fairly good health, but his inguinal glands are considerably enlarged.

Two years ago, whilst under treatment in Paris, his left eye began to protrude, and, to use his own exaggerated expression, "was pushed right out of the head." His Paris doctors proposed an operation, but he was finally cured by Pagenstecher at Wiesbaden by means of large doses of iodide of potassium. The eye, he thinks, receded more than natural, and so also did the left, which had never been protruded. I

may repeat that there is not the slightest reason to suspect syphilis. There has not been any tendency to recurrence of the protrusion. The sight was never in the least affected.

We have here an example of an inflammatory proptosis obviously independent of tumour or of gumma, and one-sided. I have published in the Ophthalmic Society's Reports another very remarkable case, possibly somewhat related in its nature. In this instance an Indian gentleman lost one eye after an operation for a condiion of which proptosis was the chief symptom. He had enlargement of the lachrymal, parotid and submaxillary glands. His second eye becoming affected by similar proptosis, he came over to England, and under treatment by iodides his eye-ball receded (see Ophthalmic Society's Reports, vol. iv. p. 36.).

DISEASES OF THE NERVOUS SYSTEM.

No. X.—*Liability to attacks of numbness in the limbs and side of face of one side.—History of an attack of sudden loss of muscular power in the other side many years ago.*

The subject of my case is a lady of a highly emotional temperament, but by no means of a weak character. She is energetic in all the duties of life, of strong will, and exerts considerable influence in the social circle in which she moves. But with all this she has extreme susceptibility to reflex disturbances of all kinds, and is compelled to exercise great self-control in order to avoid breaking down, or bursting into tears. She is now fifty-two years of age, and has been married for nearly thirty years, and has five or six children. On several occasions she has been confined to her house or her room for a month or two at a time, owing to nervous susceptibility, headache, &c. Eighteen years ago she had what she calls an attack of paralysis, of which she gives me the following account:—"I fell down in crossing the room, and fell so suddenly that I thought I had tripped. I had not the slightest warning, and not the slightest feeling of faintness; nor was there any loss of consciousness. I was only convinced that I had not tripped by finding that the right arm and leg were paralyzed." This attack occurred four months after a confinement, and whilst she was nursing. She was in bed for a week after it, but "the paralysis of the limbs," which she believes was almost complete at the time, had passed away in a few hours. She remained nervous, weak, and quite unable to do anything for several months afterwards.

The special symptom which I wish to describe is a liability to attacks of numbness in the left side. (It was the *right*

limbs which were paralyzed.) For the last two years or more Mrs. Y—— has been liable at times to have the whole of the left side, including both limbs and the half of the face, become quite numb. The numbness, she says, is attended by tingling and a dreadfully peculiar tingling sensation which alarms her. It may sometimes last for several hours, or even for a day or two. Her liability to it has decidedly increased of late. The attacks are brought on by any emotional excitement, and more especially by reading an interesting book. She is obliged to instruct her daughters never to allow her to read more than half an hour; and she is often compelled to desist from all kinds of reading. The exercise of the attention required in writing will sometimes bring on attacks, but not nearly so easily as reading. The attacks are attended by retraction of the eyeball and diminution of the palpebral fissure on the side affected, and her daughters are accustomed to observe that "*the eye is going away*," meaning that it is looking smaller. I have not the least doubt that this is a correct observation, for when Mrs. Y—— consulted me, I at once noticed that the palpebral fissure on that side was narrow, and that the eyeball looked retracted. I could not make any difference as regards the activity of the pupils, nor had any defect of accommodation been observed. Both pupils were rather small, and not very active, but beyond this nothing could be said. Her vision, with suitable glasses for presbyopia, was perfect. I inquired as to whether there was any difference in the two sides as regards coldness or as regards perspiration, and was told that the tendency to perspire was unusually great on the two sides, but that no difference was observed. The limbs and face when numb felt to her cold, but she did not think that they were ever objectively so. To conclude the narrative, I have to add that menstruation had ceased some years ago; that Mrs. Y—— lived in the country, and had plenty of exercise; that she took no stimulants; and that she was, so far as I could judge, with the exception of the nervous symptoms, in good health. Her hearing was good, but she was frequently troubled by buzzing in the ears if she attempted to read.

No. XI.—*An instance of Neuritis of the Ulnar Nerve, affecting a long tract and producing uniform induration. Tenderness of the nerve. Supposed to have been produced by an injury. Syphilis and Leprosy both possible.*

Private McK——, a man aged forty-eight, was brought to me on account of what was very obviously at the first glance at his hand, complete paralysis of the ulnar nerve. It was his left hand. He was a spare man, and the hollows between his metacarpal bones were quite obvious, and most so, of course, that between his index and thumb. There was no defect of nutrition in the little or ring fingers, or their nails, nor were they in the least contracted. The loss of sensation, however, in the little finger and ulnar side of ring, appeared to be absolute. I found his ulnar nerve thick and hard as a piece of wire. It stood out from its bed in the course of the upper arm, and it was as easy as possible to trace it from the inner condyle to the axilla. It was of nearly uniform thickness in all parts, and perhaps about double its normal size. On the external condyle it was very movable, and it could have been lifted over its tip had it not been for the pain caused. In the lower part of the forearm I could again feel it easily, as a hard cord. Private K—— attributed his ailment, and probably correctly, to a blow received on his elbow five or six years ago. An exploding shell struck his sword, and drove it against his side and against his elbow. It struck his funny-bone, and gave him much pain at the time, but he did not consider that he had been seriously hurt. Within a few months of this accident he began to notice that his little finger was painful as if his ring nipped him, but it was not until four years later—that is within about a year of the present—date that the muscular wasting was observed. This developed rather rapidly, and with it the absolute anæsthesia in the ulnar fingers. Ever since the accident he had been liable to severe pain if the elbow was touched, and lately this had increased until it was a source of great inconvenience. He could only sleep with the arm straight out at the side of the thigh, and

if by any chance his elbow got bent it would wake him with aching in the limb, and keep him awake some hours. The nerve trunk at the elbow was very tender, and an accidental knock on it would cause excruciating pains; on one occasion he had almost fainted, and it had remained painful for hours afterwards. It was remarkable that there was no derangements of nutrition in the hand. He said that the fingers always felt numb with a sort of pins and needles in them, and that when cold they became colder than the other ones; but in my room there was no difference, and the skin looked perfectly normal. Before venturing on a confident diagnosis on neuritis consequent on contusion, two other facts in the patient's history must be considered. He had lived for long in India, and in leprosy districts, and he had also suffered from syphilis. His attack of the latter disease was twenty-seven years ago, and he had had no reminders. On that occasion the only constitutional symptom which he could remember was a very bad sore throat. It was diagnosed as syphilitic by three surgeons, and for it he was sent to Aix-la-Chapelle. Respecting his treatment at the latter place he made the incredible statement that he had sulphur baths only, and no inunction. As regards leprosy, it is to be said that he had no other indications of it, and that the enlargement of the nerve was more uniform in its whole length, and attended with much greater induration than is usually the case; nor have I ever, in cases of leprosy, known the nerve to become tender. These points are by no means conclusive.

There could be no doubt that in this case neuritis is present, and it appears to be attended not only by enlargement of the nerve, but by a loss of elasticity, if not actual shortening. It would appear to be owing to a certain degree of shortening of the nerve trunk, that he finds the straight position of the arm the most comfortable. Whenever the elbow is bent the nerve is stretched, and pain is produced.

I advised that an operation should be done, and that a portion of the nerve should be excised, but that before resorting to this ultimate measure, a course of mercury should be tried. There seemed a bare possibility that the disease might be syphilitic, although it is perhaps very improbable

that a syphilitic inflammation should extend uniformly through such a long tract of the nerve.

No. XII.—*Long persisting Mydriasis of one eye only with coldness of the opposite hand. History of headaches in boyhood.*

For the present I will content myself by simply placing the following remarkable case upon record :—

A pawnbroker, aged 46, but looking older, consulted me on account of a very exceptional combination of symptoms. He had mydriasis of his left pupil with coldness of his right hand, and there seemed good reason to suspect that these conditions had been present for twelve or fourteen years. At least twelve years ago he consulted a distinguished specialist in a provincial city on account of the state of his pupil, which was much larger than the other, and had been told that it was due to debility, and that there was no cause for anxiety. About the same time he became aware that he had one cold hand, and his children used to joke him and ask him to touch them first with one hand and then with the other. Both these conditions were, in fact, observed in the first instance, not by himself but by his friends. It did not appear that he was specially out of health at the time they commenced. When I examined him the dilated pupil was as large as No. 10, and quite motionless, the other pupil being of the size of No. 3, and very active. He was slightly myopic, and used glasses both for the distance and in his shop. There seemed reason to think that his power of accommodation varied at different times, as he said he could sometimes see better with one eye and sometimes with the other. There could be no doubt, however, that on the day I saw him there was considerable defect of vision in the eye affected with mydriasis. Excepting the conditions of myopia, there were no changes in the fundus and no opacities in the vitreous. I could not detect any weakness in the external muscles of the eye, and there was no very obvious difference in the width of the palpebral fissure on the two sides. His cold hand (that of the opposite side) was to my touch, as well as to his feeling, very definitely colder

than the other. It was also more dusky. If its capillaries were emptied by pressure they filled very slowly, much more slowly than that of the other side. If he became heated by exercise, the contrast between the two hands was at once much greater. He was not remarkable for intelligence of observation, and did not give me a very clear account of the outset of his symptoms, nor could I get to know whether his foot and leg had been affected. He did not think it had been at all definitely colder than the other. The irritation of his boot had, however, brought out a ring of dry eczema just where its upper edge touched the leg, and as there was nothing corresponding to this on the other side, it seemed probable that there was some difference in the nutritive condition of the two limbs. The nails of the colder hand were somewhat more pitted and rough than the other, but there were no very definite changes in the nutrition of the skin. The hand was simply dusky and objectively cold. I did not detect any difference in the ears of the two sides, nor had he noticed any.

Although, as has been said, Mr. F—— was not remarkably intelligent, yet he appeared to enjoy fair equanimity of spirits, and there was no evidence that his family was specially neurotic. Several relatives had died of phthisis, and he had a brother insane. He remembered that as a boy he used to suffer from dreadful headaches, which were always aggravated by stooping. Thus, for instance, he had to be most careful not to stoop to tie his shoe-strings, for if he did he would have a headache for the rest of the day. He used to have at that time what he called "muzzy days," on which he could neither do his lessons nor remember what he had learnt the day before. He used to suffer dreadfully from cold feet, but never had chilblains.

No. XIII.—*Very troublesome recurring Herpes of the Prepuce.*

A gentleman who was sent to me by Mr. Pugin-Thornton, of Canterbury, afforded a good instance of recurrent herpes after syphilis. He had suffered from a chancre six years

before I saw him, and was then treated with mercury for upwards of six months. So far as he knew he never had any secondary symptoms. Eighteen months ago he had another chancre, and on this occasion took mercury for six weeks only. Again no secondary symptoms occurred. The liability to herpes dated from his first chancre. The eruption had occurred not with regularity, but with intervals averaging perhaps six weeks, ever since. He was liable to it on the penis, on the back of the left thigh, and on the left buttock. Sometimes it would occur on all three parts at once, sometimes on two, and sometimes only on one. When he came to me he had it on the penis and back of the thigh. He had not been accustomed to do anything for it. The attacks would last a week or ten days, and then get well spontaneously. Throughout the whole period of liability he had had no other reminders of syphilis, and had been in good health. I advised him to take a long course of arsenic, warning him beforehand that it might very possibly give him an attack of shingles.

No. XIV. — *Very troublesome, almost persistent, Herpes of the Prepuce. Long continued use of arsenic. Great benefit.*

A married gentleman, aged forty, who was sent to me by Mr. Treves, of Margate, had been for two years very much annoyed by herpes of the prepuce. He had had syphilis some years ago, and had been married now two years. I saw him first in the beginning of January, 1888, and prescribed arsenic. In January, 1889, he was able to report that he had several times been for several months free from his plague. He had in fact had it only four times during the whole year, whereas formerly he used hardly to get rid of one attack before another came. He told me once, before he consulted me, whilst staying at Spa, and being freely purged by the waters there, he had been for a time quite free from herpes; it had returned, however, almost as soon as he got home. In this case the herpes used to follow sexual intercourse and enforce abstinence. After a more or

less prolonged period of abstinence, a single indulgence was sure to bring it out, and the longer the interval the more severe the attack. This liability persisted for some time after beginning the arsenic.

No. XV.—*Very troublesome Preputial Herpes. Long continued use of arsenic with benefit; attacks rendered abortive.*

Mr. William C——, unmarried, from New York, consulted me on account of most troublesome herpes of the penis, from which he had suffered for four years. His attacks were so frequent that he was scarcely ever free from it. It had followed syphilis, from which he had suffered five years ago, and for which he had been treated by mercury. He had no other symptoms of remaining syphilis, his knee-jerks were good. He was anxious to marry, and the herpes was the only hindrance. On May 24th of 1888 I prescribed arsenic for him, and on October 30th he reported that the herpes had sometimes been absent for five or six weeks at a time, but that on several occasions the attacks had very rapidly succeeded each other. In April, 1889, his statement was that the interval had got much longer and the attacks milder, and in June of the same year he considered himself well, and wished to leave off the medicine. Of late, if an attack had threatened it had always proved abortive, not lasting more than a day.

In this case I had been obliged to push the remedy, giving in combination, m iii of Liq. Sodæ Arseniatis, and the same quantity of Fowler's solution. At one time I thought he had symptoms which might be due to the arsenic, for some little rough peeling discs appeared on the backs of the hands, and there were several little persistent patches of decided thickening on the corona of the glans penis. Both of these conditions disappeared on stopping the arsenic, but they did not recur when we resumed it.

ON RHEUMATISM AND GOUT.

No. I.—*On Painless Gout.*

I am very anxious to remove a widely spread and quite erroneous opinion that pain is essential to gouty inflammation. This creed leads, I am sure, to many mistakes in diagnosis. If gout attacks the ligaments or cartilage of a joint, or the periosteum of bone, or the thecæ of tendons, then it is usually painful, often, as is well known, most acutely so. But if it affects, as it sometimes does, skin and cellular tissue chiefly, then it may easily happen that there is little or no pain. In many cases of even acute gouty inflammation, redness and œdema are the signs, and pain is almost wholly wanting. In such cases the diagnosis of erysipelas might very likely be made, and when, as I have sometimes seen, the œdema spreads up the limb, this suggestion might appear to obtain an item of important support.

Having thus asserted that some forms of unquestionable gout are painless, I will now illustrate the subject by giving the details of a very definite case. I wish it to be considered not as a rarity but simply as an example.

A gentleman, who was under my care on account of eczema, and who had a strongly gouty history, came to me one day with a slipper on his right foot in consequence of swelling of his third toe. He said it was gout, and he attributed it to his having incautiously drunk champagne at a friend's house. The whole toe was swollen, œdematous and of a dusky red tint. There was no abrupt line of demarcation to the redness, and the swelling extended more or less over the roots of adjacent toes. My patient stated

that he had slept well, and that excepting a little pricking and tingling in the skin he had no pain. I prescribed alkalies and a suitable regimen. I made him wrap the toe up, and allayed the redness with a spirit lotion. In a few days all inflammation had disappeared, and he could again wear his boot. A fortnight later, in consequence of some symptoms of failing tone, I prescribed for this patient a mixture containing quinine. He was at this time taking no wine, excepting claret, and that in very small quantities. Apparently as the result of my quinine mixture, œdema of the foot returned. This time it was not in the toe, but on the instep. There was a large, puffy, œdematous patch, and reddening of the skin. Again there was no pain whatever. The patient had walked to my house; he slept perfectly, and felt well. There was some pricking and burning of the part, but this was all.

In further proof that these attacks were really gout—in other words, that they were caused by disorder of assimilation and excretion attended by the presence of lithate of soda in the blood—I may state that I removed from my patient's ear a small tophus. He told me further that he had been under the care of Sir Andrew Clark, exactly a year ago, for an attack of gout, and that on that occasion there had been swelling and redness, but no material pain. A year before that he had had his first attack, and a much more severe one, attended by great œdema and by pain which kept him awake at night. He inherited gout on both sides, both his grandfathers having suffered from it. He had no brothers. Neither of his two sisters were accustomed to take wine, and neither of them had had definite gout. Both were liable to neuralgia.

No. II.—*On Inheritance of Gout as the predisponent of Gonorrhœal Rheumatism.*

I have long held that the predisposing cause of what is called gonorrhœal rheumatism is an inheritance of gout. In case after case I have found this history, and few indeed have been the exceptions. I have, however, never seen a case which

better illustrated not only this fact, but the whole train of eye symptoms which go with this disease, than the subject of the following narrative.

A gentleman, of about 25, suffered from his first gonorrhœa, and under treatment with sandal-wood oil was getting better when he was laid up in bed by an acute and very painful attack of arthritis in one ankle. Next the joint of one great toe was attacked, and symptoms exactly like those of gout supervened. Other joints were threatened. Whilst this was going on he had conjunctivitis of both eyes. It was not gonorrhœal ophthalmia, and was not purulent, and it soon passed off. Just as it was well, however, the right eye was attacked in a different way. It became the seat of intense pain, which affected the whole globe, and was attended by intolerance of light and much dimness of vision. At one time the aqueous was believed to be opaque. It was difficult to be sure as to a ciliary zone of congestion on account of the great amount of conjunctival redness which concealed the deeper parts. The paroxysms of pain were relieved only by injections of morphia.

It was after all the events described above had passed that I saw the patient. The consultation had been requested on account of alarm as to the prospect of the eye.

I found the eye, as described, much congested, and so irritable that detailed examination was not practicable. I contented myself by ascertaining that he could still see small capitals, and that there was no increase of tension. The pupil under atropine was of good size.

The patient described paroxysms of pain in the eye of all the severity of gout in the toe. He said that they came on suddenly, lasted for a few hours, were attended by throbbing, and were simply unbearable. He had been obliged repeatedly to send for his surgeon to have morphia injected. At the time of my seeing him the pain was quiet, but the eyeball still very sore and tender. There was no purulent discharge, nor any proof of gelatinous effusion into the anterior chamber. Both conjunctiva and sclerotic were much congested.

The history of family gout was most definite. His father, who died at 35, had suffered an attack every year for several

years, and many other relatives had also had it. It was present also in his mother's family. The patient himself had lived carefully, and had never suffered from any joint affection whatever until he contracted gonorrhœa.

No. III.—*Protracted Rheumatoid Arthritis of one Wrist. Remarks on its peculiarities.*

Captain L——, a seaman, aged about 50, affords a good example of acute arthritis of the wrist joint.

He was sent to me as a surgical case by a very distinguished physician. He himself had considered it rheumatism, as he had suffered repeatedly from rheumatic pains. The hand was in the position of dropped wrist, but great swelling. It was fixed, and could be neither pronated nor flexed. The swelling was diffused and rather firm. It did not present any boggy points, or threatening of suppuration, and it had neither much tenderness nor pain.

He was carrying the limb about without either sling or splint, and said that although the pain had at first been great it had entirely passed away, and that he was now able to sleep well. His account of the beginning of the attack was that he had fallen asleep one summer night on the deck of his vessel, that a cold wind sprang up, and that on awaking he found his hand and wrist chilled, bluish, and painful. Swelling and great pain about the wrist quickly followed. This was three months before he was sent to me. Capt. L—— was a tall dark-complexioned man of bilious aspect. The facts of his case and the condition of his wrist and hand made me think strongly that it was an example of arthritic and not of scrofulous inflammation, and that the tendency would be to ankylosis and not to suppuration. From this diagnosis it followed that endeavours should be made to secure movement, and that it was neither essential nor desirable to place the joint in a condition of rest. I ordered for him the application of the tincture of capsicum every night, and prescribed quinine, aconite, and the iodide of potassium. He was anxious to know whether he ought to be kept at home for treatment or might venture on another voyage into the tropics.

I encouraged him to the latter course, believing that the change of climate would prove a remedial measure to him. He came to me after about a fortnight's use of the capsicum, &c., and with great improvement. The swelling of the wrist was considerably less, and a certain amount of movement, both of supination and flexion, was practicable. I now advised free inunctions with lanoline and iodide of lead, and ventured to commence a course of passive movements of the joints. He was to sail in a few days.

My experience of acute rheumatoid arthritis of the wrist limited to a single joint and simulating destructive suppurative inflammation has not been extensive. I have of course seen a great deal of chronic rheumatic disease of this joint in association with general rheumatism. It is, however, for the most part only when the disease is acute and restricted to one joint that the diagnosis becomes difficult. The two cases most nearly parallel to the one just narrated which are in my memory are the following:—Mrs. M——, a florid and very healthy lady, of about 30, with a strong gouty history, passed through a most severe attack of inflammation of one wrist. She had nothing else at the time the matter with her. The condition was very painful, and it resisted all measures of treatment for about six weeks. It finally, however, yielded quite satisfactorily; no suppuration occurred, and we were able by the systematic use of manipulations to prevent ankylosis. In another case, which I believe I have published somewhere, a woman of about 38 was under care in the London Hospital. The inflammation of the wrist and carpus was very severe, and the opinion of most who saw the patient was that it was suppurative and would end by breaking down. My own diagnosis, although by no means confident, was throughout in favour of rheumatic gout; it was based chiefly on the patient's history. That it was correct was, I think, demonstrated by the fact that after about three months' duration and long resistance of treatment the inflammation began rapidly to subside and complete recovery took place, though with considerable stiffness.

No. IV.—*Fibrous Anchylosis of one shoulder in a Girl, without signs of preceding inflammation. Strong history of Gout in predecessors.*

I once had under care in the London Hospital a girl, in whom the right shoulder had become stiffened from an attack of chronic and almost painless inflammation. She was of fair complexion, florid, and well-grown. Her age was twelve. The deltoid was wasted, and although by manipulation certain limited movements could be produced, she was not able voluntarily to accomplish them, and in raising the arm she always moved the scapula. She had, when I saw her, no pain whatever, and allowed the joint to be examined without flinching in the least; indeed, from the beginning, painlessness had been a characteristic feature. She stated that she had only found out that her shoulder was stiff, by being unable to accomplish some movements which other girls did in calisthenic exercises at school. I made an examination of the joint under ether, but found it impracticable to obtain any material increase of movement. I drew the attention of my class to the peculiar difficulty in restoring movement to a shoulder-joint which had once stiffened, remarking that it was, with the exception perhaps of the ankle, the most difficult joint in the whole body in which to prevent stiffening. This is due in part to the extreme mobility of the scapula, which renders it difficult for the patient to know whether he is using the joint or not, and at the same time greatly diminishes the inconveniences of stiffness. The shoulder-joint is almost the only one in the body which can become stiff without the patient finding it out, and in it what may be called insidious or unrecognized loss of motion is by no means uncommon. Of this the case under observation is a very marked example. In proceeding to inquire as to the precise nature of the disease, I said that I had, in the present instance, little doubt that the patient inherited an arthritic tendency, and that very probably there was the history of true gout in her family. This was most fully confirmed by our subsequent inquiries. It appeared that her paternal grandfather had

"died of gout," having had large chalk-stones on his knuckles. Her father had his first attack of gout at the age of 20; and now, at the age of 41, he, like his father, has chalk-stones.

The study of maladies occurring in the children of gouty parents is one of great interest. That they suffer from maladies which, whilst certainly in direct connection with the inheritance, yet differ very greatly from the popular idea of gout, is unquestionable. Our opinions on this subject need to become wider, and less conventional. Whilst some gouty affections, perhaps most, are intensely painful, others are characterized by slow progress and a remarkable absence of pain. Whenever children, or young persons, become the subjects of painless stiffening of joints, with no tendency to synovial thickening, a history of gout is to be suspected; and the same is the case whenever iritis occurs in young persons without obvious cause.

In support of these assertions I venture to cite the peculiar form of insidiously progressive, but almost painless, iritis, which I described some years ago, as peculiar to the children of the gouty. This form of iritis has its analogue in forms of joint-disease, such as the one described above. In the case of the eye, iritic adhesions may form and the pupil become closed, not only without any acute attack, but almost without the patient's experiencing any symptom except the loss of sight. An almost exactly similar process had probably taken place in the girl's shoulder-joint described above.

No. V.—*Note on Stiffening of the Shoulder-joint.*

We may note in connection with this subject that the shoulder-joint is very apt to stiffen if kept long at rest. This will happen after accidents in which the joint itself is not involved, or after operations, such as excision of the breast, which have nothing whatever to do with the shoulder, excepting that they necessitate a period of absolute rest. I believe that this stiffening is especially apt to occur in those who inherit arthritic tendencies.

I saw not long ago a man aged 34, who had been treated for a fracture of the humerus, which did not involve the joint. It had been kept in splints for five weeks, and the union was perfect. When I saw him sixteen weeks after the accident the arm was quite straight, and there was neither swelling nor pain, but, to the great disappointment of the patient, the shoulder was stiff.

Now the history of this man's family was that his father and one of his brothers were crippled by rheumatism; the brother to such an extent that he was quite helpless. The man himself was not aware that he had ever suffered from any form of rheumatism. I advised in this case that anæsthetics should be used, and the shoulder forcibly manipulated; but for reasons which I have already explained I have but little hope that he will regain the use of the joint.

SYPHILIS.

No. XII.—*On the diagnosis of Pityriasis Versicolor from Syphilitic eruptions.*

Few errors are more common in reference to syphilitic eruptions than to mistake common chloasma for such. It is so definitely copper-tinted, that when it occurs to a person who has formerly had syphilis an erroneous diagnosis may easily be made both by the patient himself and his adviser. A little care is, however, all that is needed, and such an error, if the case be well characterized, can never happen to any one well accustomed to skin-diseases. There are, however, certain very rare forms of cryptogamic (?) eruption on the skin which may puzzle even the most experienced. In most of these the microscope is an easy and conclusive means of clearing up doubt. Not, however, always. I am familiar with cases which present patches which look exactly like ringworm of the naked skin, and which occur without symmetry and apparently multiply from a single parent just as ringworm does, and which yet never show any fungus. These cases usually happen to be in those who have had syphilis, and the difficulty always is to say whether the eruption is or is not specific. The patches are, I think, usually cured by local applications of mercury, whether in lotion or ointment.

No. XIII.—*Inherited Syphilis. One child escaping and a younger one suffering very severely.*

Dr. Gunther, of Wimbledon, brought to me a very interesting case illustrating the laws of inheritance of syphilis. It was especially important as proving that

transmission of a very severe form is possible several years after the acquisition of the disease by the parents, and after the birth of one child which had been free from symptoms. Her husband contracted syphilis in July of 1882, and his wife had a syphilitic eruption in the early part of 1883. Both were treated for about two months by mercurial inunction, and got quite well; with the exception that the husband remained liable to a slight palmar psoriasis. The wife had no reminders whatever.

In 1883, there was a premature dead birth.

In 1884, twins were born prematurely, and both died almost immediately.

In 1885, a female child was born prematurely, which weighed less than 4 lbs., but which survived and never showed any indications of syphilis.

In 1887 (December), a very fine male infant, apparently in perfect health, was born. This would be nearly five years after the mother's syphilis. It remained healthy till six weeks old, when a severe scaly inflammation attacked its hands and feet. When I saw it two weeks later, it was emaciated and had sores on the scrotum and cracking of the lips; its hands and feet were in a condition of diffuse inflammation, but were not definitely bullous.

No. XIV.—*Syphilis in both parents. Escape of children from three years later.*

I attended Mrs. N—— six years ago on account of a most severe attack of syphilitic iritis. She had at the same time a copious eruption. Her husband, a medical man, admitted having communicated the disease to her, and was himself still under treatment. Both the parents took mercury for a considerable time, and both got quite rid of their symptoms. Neither of them have needed any treatment during the last five years. They have continued cohabitation ever since the unfortunate occurrence, and the following is a statement of results. The first two conceptions ended in premature births, but two later ones in living healthy children. The eldest child is now two years and a half

old, and is, I am assured by its father, as strong and healthy as possible. Neither it nor the younger one have ever shown the slightest symptom of syphilis.

This case is important as showing how fallacious may possibly be the inferences as regards the effects of treatment of parents in procuring the birth of healthy children. Both parents were known to have suffered severely; and two dead births resulted. No treatment was, however, adopted, and as the result apparently of mere lapse of time, the subsequent offspring have been free from any obvious taint.

It will be seen, further, that the eldest living child was conceived within three years of the disease in both parents.

No. XV.—*Syphilis without Chancre.*

One of the most definite and remarkable examples of syphilis without a chancre which I have ever seen, occurred in the person of a young surgeon. This gentleman, Dr. ——, came to me covered with a typical eruption of erythematous papules, and with superficial sores in his tonsils. The rash had been out about a fortnight, and he had as yet taken no specific. He made no difficulty as to admitting that he had been repeatedly exposed to risk, but, he added, "I have had no chancre." I examined his genitals, and found no trace of one. He told me that he had begun to feel feverish with headache about three weeks ago, and that after a few days the rash appeared. This set him thinking, and he remembered that about five weeks before, in circumcising a man who had a chancre, he pricked one of his fingers rather deeply with a needle. The prick drew blood, and he was sufficiently alarmed to suck the wound for some time. Nothing, however, followed, and at the time of his visit to me no trace of the prick could be found. There was, however, in the left axilla, in the same side as the prick, an indolent, hard gland as big as a walnut.

There is a possible fallacy in almost every narrative by which it is sought to prove unusual facts in respect to syphilis, and there is one in this. The patient had had what he called a boil on the skin of his neck, just above the sternal notch.

This was just healed. He assured me that it behaved like a boil, but it may have been a chancre.

No. XVI.—*Congenital Syphilis as a possible cause of Knock-knee and other Joint deformities.*

I recorded many years ago, and mentioned again in my little book on syphilis, several cases in which definite abnormalties of growth in the joint ends of the long bones had resulted from inflammation in the infantile stages of congenital syphilis. A case in which a surgeon brought to me his own child, whom he knew to have suffered in infancy, was of interest in this respect. The child, when I saw her, was six years old, and was very decidedly knock-kneed. Her father told me that in infancy her wrists, elbows, and knees had all been enlarged and tender for some considerable period. I carefully examined them all, but, with the exception of the knees, the ends of the bones now showed no deformity. The wrists in particular were shapely, and did not show the clubbing often seen after rickets. The child was the subject of choroiditis.

No. XVII.—*Subacute Sarcocele at the end of a year from the beginning of Syphilis.*

A patient whose syphilis was not treated sufficiently vigorously had his eruption come out in spite of mercury and assume the rupia form. He continued treatment by specifics for a year, but was still not quite cured. At the end of the year, whilst still under treatment, his right testis suddenly swelled. It was the body of the gland which was affected, and the swelling was considerable and attended by some pain. It appeared to be an example of a subacute infiltrating gumma.

I do not know that I have ever seen syphilitic implication of the testicle at so early a stage of the disease as in this case.

DISEASES OF THE SKIN.

No. XIX.—*On uncured Infantile Eczema and its occasional persistence through life—Remarks on the relation of such cases to Hebra's Prurigo.*

As a rule the eczema of infants, however severe and troublesome for a time, gets cured in infancy. It seldom lasts long after the lactation period. In a certain number of cases whether from exceptional severity or deficient patience in treatment, the disease continues on through childhood, and even lasts into adult life. An interesting collection of clinical facts might be got together respecting these examples of uncured infantile eczema. In some instances the disease survives as a sort of pityriasis of the scalp; in others the hands only continue to suffer; in yet others intertrigo of the knees and elbows is all that lingers. In a small number, however, the morbid condition survives as a severe affection, attended by general dryness and pityriasis of the whole surface, and frequent severe outbreaks of acute eczematous inflammation. These later cases make up the bulk of those which, amongst English dermatologists get christened "Hebra's Prurigo." They are almost always attended by much itching, and the patient is usually a scratcher. I do not purpose to discuss this subject at present in any detail, but simply wish to record a case which has recently come under my notice which well illustrates my statements.

A young man aged 23 was sent to me by Mr. J. J. Hanbury, of Lombard Street, as an example of uncured, and perhaps incurable, skin disease. He was affected with eczema over the entire surface of the limbs, trunk, and head. The only parts which were in any degree exempt, were the palms and soles, and even here there was some peeling in patches. His face

suffered most severely, being covered with a thin eczematous crust, just as seen in the most severe infantile forms. The condition entirely disabled him from his occupation, and reduced him to a most pitiable condition. The history given was that in infancy he had suffered from eczema of the face and head, which spread to the body, and from which he had never been wholly free since. His father and a brother had also suffered from eczema in childhood, and the former did not get rid of his till past puberty. Our patient stated that from infancy till the last twelve months his face had been free, and often he had got almost well on the body, never, however, losing it at the flexures. He had been under the treatment of many specialists, and plaintively added, "I've had cuticuria and vinolia, and Clarke's blood mixture, and they do me no good whatever." He was an intelligent man, of fair complexion and rather thin. There had been great irritation, and he admitted that he was accustomed to scratch freely whenever it was not too sore. There had been without any obvious cause a considerable development of the disease of late, and his face and head had again become involved after a long period of immunity. His digits were affected to their very tips.

No one can doubt respecting such a case as this, having regard to the family history and general facts, that it is simply an uncured relapsing eczema. No good purpose can be served by giving it a new name because it is pruriginous and because it threatens to last the patient's life. The remedies which will do good are those for eczema, and had they been patiently and efficiently used in infancy, the disease would probably have been cured. If once quite cured there is a fair probability that it will not recur, but if any portions of skin be left still affected, they will always serve as foci from which the malady will be re-lighted. The grand point will be to induce the man to resolutely forego scratching, and to constantly use local applications (tar washes) instead. If he has strength of mind and patience to do this, he may get quite well, and remain so. On the other hand, if the disease be not cured, he will probably have, within a certain number of years, general gland enlargement, with emaciation and anæmic

cachexia. In this way by slow stages such cases may tend eventually to a fatal termination. The pruriginous element and the want of self-control are very important. I have known a man literally scratch himself to death, the disease being all the time a curable one, could he have been induced to abstain.

No. XX.—*Herpes Tonsurans which had travelled from the Scalp to the Skin of the Hand* (*two cases*).

I have just seen a case of ringworm on the hand of a boy which has interested me. The lad was brought for "eczema," and all that he had to show was a narrow line of slight redness with exfoliation, which crossed the back of his hand and extended upon his thumb. All the rest of his skin was quite healthy. My attention was attracted to the abruptness of the line, and the circumstance that it presented the appearance of a number of curves joined together. It was, in fact, like a part of the edge of a large patch of eczema marginatum as we sometimes see it on the inside of the thigh. I never, however, saw the latter with such a very insignificant border, or with such perfect soundness of the skin which had been abandoned. Knowing, however, of no skin eruption excepting ringworm which can take the form of a narrow advancing border alone, I at once suspected this disease. It was difficult to get anything for the microscope, for the hairs were very small and the desquamation very little. However, using a lens, I picked off a few scales, and pulled out a few hairs. At first there appeared to be nothing. The hairs were as transparent and as smooth as possible, and nothing like a broken one could be seen. After a little search, however, plenty of fungus was found in the form of long monilliform threads clinging to the roots of the hairs. The common condition was jointed threads, and for the most part outside the hairs. There were but few groups of spores.

The history given was that the boy had suffered from ringworm of the scalp six months ago, which had been well cured. Ever since, however, a slightly marked eruption had been

slowly travelling down his arm, of which what I saw was the remains. A portrait of the hand was taken by Mr. Burgess for the College of Surgeons collection.

A few days after I had seen this case a somewhat similar one presented itself in a little girl, whom I had myself treated for ringworm of the scalp. All that remained in her was a patch on the back of one hand.

No. XXI.—*Unusual appearances in Tinea Versicolor.*

The case which I am about to relate differs a little from those to which I have above referred, and should be classed as an example of chloasma (pityriasis versicolor) which became difficult of recognition because it did not present its usual appearances.

A gentleman from abroad came to me with an eruption on his arms, thighs, and trunk, which had been treated by his own surgeon, after consultation with an able specialist, as syphilitic. He had been put under the full influence of mercury, but without any benefit to the skin. There was no doubt that he had had syphilis, but it was ten years ago, and for nine years he had been without reminders. He was in excellent health. The eruption occurred chiefly on the trunk and limbs, and consisted of slightly desquamating areas, which were for the most part well margined, but not everywhere. About the scrotum and thighs, for instance, there was general slight desquamation, no definite patches, and only ill-defined borders. On the trunk there were two or three patches with slightly lichenoid edges, and with tendency to recover in the centre. These looked much like ringworm. None of them in the least resembled the ordinary appearances of pityriasis versicolor, and that diagnosis did not at first occur to my mind. Having regard to the affection of the scrotum and adjacent parts of thighs, I thought of eczema marginatum (the cryptogamic form) and also of common ringworm. I felt sure, both from the history and the very superficial character of the dermatitis, that it was not syphilitic. At such a distance from the primary disease we never see general and symmetrical eruptions. I scraped

from the patches on the forearm some epidermic scales. They were not abundant, and were much more difficult to get than is usual in chloasma. The microscope showed plentiful fungus. My patient at this stage told me that he had just come from Paris, where he had seen M. Vidal, who, like myself, had used the microscope, and pronounced the disease pityriasis versicolor, and had ordered, as I did, sulphur baths for its cure.

The fungus presented some minor features of difference from that of the microsporon furfur. More especially, its spores were unusually large. The case is of interest in showing the value of the microscope. I also think that it lends support to the belief which I have long entertained, that the fungus of ringworm, of pityriasis versicolor, and of "eczema marginatum," is one and the same.*

No. XXII.—*Urticarious swellings in throat, tongue, and various parts of the body.*

The essential feature of all urticarious inflammations is the development rapidly of discontinuous swellings which show a tendency to disappear spontaneously and quickly. The following case may, I think, be claimed as one of urticarious œdema. In all probability its cause was some article of diet taken unsuspectingly. A gentleman aged about 39, who had ten years ago been under my care for other disease, was brought to me by Dr. Bronner, of Bradford, with the following history. He had been attacked suddenly one day by tingling and swelling in front of his wrists and on his heels. On this there quickly followed great œdematous swelling of the uvula and soft palate, chiefly on the right side. The swelling was such that Dr. Bronner had to scarify freely. The next morning the tongue swelled, chiefly on the right side, and Dr. Bronner was summoned in the night, it being feared that suffocation was threatened. The swelling, however, rapidly passed away. There was next a large œdematous swelling in front of one

* I note with interest that one of the most recent botanical authorities on this subject sees no cause to make different species of these fungi. See Flügge on "Micro-organisms," p. 127, a work which is now in course of issue to the members of the New Sydenham Society.

elbow, and next one cheek swelled up. Finally there was fixed pain at the epigastrium, and sense of obstruction in the œsophagus. The whole period of liability was one week, and then the recovery was complete, and Mr. B. as well as ever. There had never been any increase of temperatures. It is to be noted that nothing resembling an ordinary urticarious wheal had ever been observed in the skin. All the swellings had implicated the submucous and subcutaneous cellular tissues rather than the skin itself.

No. XXIII.—*Universal Alopecia in middle age, with history of severe ringworm in childhood.*

A lady, aged 45, who was sent to me by Mr. R. H. B. Nicholson, of Hull, was absolutely hairless. She had in the course of about a year lost all her scalp hair and that of her eye-brows, eye-lashes, axillæ, pubes, and limbs. She assured me that she had not a hair left. The alopecia had begun in the usual way by patches on the scalp, (one on the vertex and one on the occiput,) which for some months did not spread much. Then occurred a sudden accession of severity, and the hair fell, she said, with most astonishing rapidity until all was gone. Although she considered that she had been out of health, and had suffered from "nerve shock," I could find nothing special. She was florid, and looked well. She had been liable, like most other people, to headaches, but curiously they had been quite in abeyance during the time that the hair was falling. She had been well treated in the early stages by means of blistering, &c., but nothing had seemed to do any good.

I of course asked as to ringworm. "Oh, yes," she replied, "I had it very badly, and my head was shaved four or five times. I shall never forget it." This was about the age of seven. A sister, since dead, had ringworm at the same time.

It will be seen that in this case the interval between the cure of the ringworm and the beginning of the alopecia was probably not less than thirty years.

No. XXIV. — *Sycosis - Acne of the scalp with lichenous and pustular Acne of trunk and limbs. Seborrhœa of ears.*

Mr. A. C. W——, a young gentleman of 22, from Lincoln, presents a very peculiar form of Acne-Sycosis. It affects chiefly his scalp, the entire hairy part of which is covered with little pustules as hard as shots. These are thinly crusted with dry scabs. There is no discharge from the scalp except at the nape, which region shows most inflammation. The sycosis state does not leave the margins of the hairy scalp on the forehead, the adjacent skin being quite free from inflammation. On the temples it spreads a little and on the nape a good deal. The back of the neck is covered with hard lichen spots and inflamed pustules. He has had a few spots in his eye-brows and moustache, but not many. The whisker regions and chin, which he shaves, are almost wholly free. His complexion is good, and he feels well. The facial hair is but little developed. The axillæ and pubes are not affected. His hair is falling. On his shoulders and back are numerous lichen spots, black comedones, and small pustules. Similar conditions are seen on the abdomen and arms and forearms, and to a slight extent on the thighs. The pustules are much smaller than those of common acne, and also harder and more shotty. They in many instances present small dry crusts.

Mr. W—— says that his eruption began on the back of his head about two years ago, and a year later extended to his arms. He has a little sticky seborrhœa discharge from both ears (two years on and off). He is somewhat deaf from it.

I publish this case as an example of the mixed forms which many conditions of disease of the integument assume. The patient is of the age most liable to common acne. His dermatitis began by pustules on the nape of the neck, possibly from local irritation, and these probably furnished infective plasma which, taking advantage of predisposing influences, age, &c., evoked the rest of the phenomena.

No. XXV.—*Two additional Cases of Purple Patches on the Skin. History of Gout in both.*

In the first number of the "Journal of Dermatology" I published some cases of a peculiar disease of the skin in which are formed large, smooth, and thickened patches, of which the conspicuous feature is their purple tint. There seemed to be some connection between the condition described and gout. In another direction it seemed possible that the cases might be allied to granuloma fungoides—or perhaps I had better say that some of the cases which have been published as granuloma fungoides belong to this category. Since the paper referred to was written, I have had some fresh facts under observation which throw additional light on the matter. They give examples of the malady in its earliest form.

Case I.—A gentleman aged 65, whom I have known for many years, and who has often, amongst other things, suffered from gout, has recently developed one of these patches on his left knee. He is a great rider, and the patch has formed on the inner side of the knee, just where it grips the saddle when on horseback. It has been present for a year or two, but has only recently increased so much as to induce him to seek advice. It itches a great deal at times. The patch in question is as large as the palm of the hand, raised so that it is in most parts at least a quarter of an inch thick. It has well-defined borders, and is of a dusky purple tint. It is quite free from tendency to vesicate or excoriate in any manner, and not in the least eczematous. It has as yet no satellites. Mr. T—— is a very florid man of large frame, and has lived freely.

Case II.—Mr. G—— is a gentleman of dark complexion and florid face. He is 56 years of age, and has enjoyed good health with the exception of repeated slight attacks of gout in his foot and hand. He inherits gout on both sides. During the last two years he has had forming in the middle of his forehead a large dusky purplish patch which has thickened and well-defined borders. It has been called "eczema," but it has never been in the least moist or scaly, and is at the present time quite smooth and soft. All creases and wrinkles have disappeared on its surface, but the orifices of the hair-

follicles have become more conspicuous than usual. Near to it on the left side, a satellite patch the size of a shilling, in all its features exactly like its parent, has recently developed. The patches might be taken for those of erythematous lupus, but they are still more like leprosy. From the latter, indeed, they differ only in that instead of being of a dull brown tint, they are of a dull livid blue. I do not think that there can be much doubt that they have been located by the irritation of the hat. Two little patches, as yet insignificant and of doubtful nature, have recently developed in the joints of Mr. G——'s wrists.

The four cases which I have now recorded have all been in men, and in men who had passed middle life and were known to be gouty. I feel little doubt that the venous congestion which gives the peculiar tint to the patches is an appanage of the gouty diathesis, for we know well how frequently the veins dilate in all forms of gouty inflammation.

It will be seen that in one of these cases the patch is as yet solitary, whilst in the other there is but a single satellite. Should the course taken in the other cases be repeated, other patches will in course of time follow. My argument in the other cases was that the condition began in the first instance from a local injury, and that it spread as an infective malady. This is my theory concerning many skin diseases, but especially those which begin in senile periods of life. In the latter there is also much risk that the process may, in the end, approach to malignancy. I may repeat that it is the purple or plum-coloured tint which is the most conspicuous feature of these patches. They resist all treatment, and tend, in the course of years, to spread over the body. In both the cases which I have given above, the suggestion of local irritation as a cause of the origin of the patch has much probability. In one the friction of the saddle, and in the other the irritation of the hat, was alleged by the patient as the cause.

A coloured illustration of the hand from one of my former cases is given in my "Illustrations of Surgery."

No. XXVI.—*A Note on Papillary-Psoriasis.*

I have been accustomed to give the name of papillary-psoriasis to certain cases in which with scaly patches there is also distinct evidence of overgrowth of papillæ. It is a condition usually very chronic, and is most often seen on the legs. The patches are seldom so well defined as in common psoriasis, and more often are long ovals in shape instead of round. They are often attended by considerable thickening, which is always greatest in the centre. Often for a long time there is but a single patch, but sooner or later others usually form. There is more or less itching, and the condition is often aggravated by scratching. There is never any moist discharge. The condition appears to be far more of a local nature than is common psoriasis, but it is often attended by a general eruption, or at any rate occurs on other parts as well as the legs. When this is the case the eruption may resemble some of the varieties of lichen planus more nearly than psoriasis.

The condition to which I refer is more common in the aged than the young. I have, however, in one instance seen it in a marked form in the legs of a young man of 20. It was on both legs, and there were many patches. It lasted several years in spite of a great deal of treatment, but at length got quite well, and has remained so. He is the subject of slight xeroderma, and was in infancy long under Sir Erasmus Wilson's care for eczema. His mother is much troubled with dry and cracked palms, and other relatives have had chronic skin diseases. Since his recovery, he has suffered from leuco-plakia in the buccal pouches. The patches on his legs were most definitely papillary.

It may be freely admitted that the condition is an ill-marked one. No two cases are alike. Whilst in some the connexion appears to be with psoriasis, in others it is rather with chronic eczema or with lichen planus. The condition which gives it peculiarity—the papillary overgrowth—is no doubt in most part influenced by the part affected. On the legs, where the circulation is at a disadvantage and venous turgescence easily produced, there is always greater tendency

to hypertrophic changes than elsewhere. This is well seen in elephantiasis and some other maladies.

No. XXVII.—*A peculiar form of Psoriasis attended by papillary growth* (*Papilloma-Psoriasis*). *A remarkable example of it.*

A most exaggerated example of this peculiar form of skin disease occurred in the person of an old gentleman who was sent to me in 1887 by Dr. Jotham, of Kidderminster. Both his legs were covered with large abruptly margined patches from a quarter to fully half an inch in thickness. Upon the tops of the papillæ crusts had formed, which had dried and become smooth and polished, presenting a most peculiar appearance. Upon these crusts he could bear pressure without flinching. This description applies only to the larger patches the smaller ones were still rough. The largest patches were as big as the outspread hand, and occurred on the front and sides of the lower thirds of the legs. Above these were a dozen or more others from the size of a sixpence to a halfpenny. Although most formidable-looking, the disease had not caused much inconvenience, and Mr. B—— was still able to walk about pretty well. The patches on the right leg were larger than those on the left, and had appeared first. It seemed very probable from their arrangement that the smaller patches were satellites of the larger one. The history was that a patch "like a little boil," but which never broke, had first made its appearance in the right leg. It itched, and he rubbed and scratched it, and extension at its sides took place, and the surface became warty. Afterwards the progress was that of steady extension, and other similar spots were produced in the neighbouring skin. After the disease was advanced, the itching almost wholly ceased. Although the patches formed coherent crusts which were not obviously scaly, yet there was never any discharge whatever. At first Mr. B—— told me that he had no skin disease elsewhere, but then recollected that there were two or three itchy spots just above the left elbow. I found, on inspection, three dry scaly patches in this situation.

Mr. B——'s age was 76; he was a dry-fibred old man, of considerable vigour, with abundant white hair, and a pale somewhat earthy complexion. He said that he had always enjoyed good health with the exception that he had been liable to diarrhœa. The disease on his right leg had begun about three years ago, and that on his left about a year later. There was no history of skin-disease, cancer, or of special liability to warts, in his family.

I detached the thick polished crusts which coated the larger patches, and found beneath a crop of foliated papillæ which branched into their covering as we sometimes see when thick layers of ointment have been allowed to accumulate around sores on the legs of old persons.

When I first saw Mr. B——'s legs, I may admit that I had very little hope of being able to do anything for his benefit. The conditions looked very formidable, and they were still aggressive. My first prescription was a mercurial ointment, which was to be used after removing the crusts by means of a tar-wash. He was to take arsenic in full doses with nux vomica and a little opium. This was on December 22nd. A month later he was no better. The polished crusts had been removed, and the papillary surface underneath was more sore in consequence. I now ordered a complicated plan of treatment. The patches were to be freely brushed over with creosote once or twice a week, the legs were to be cased night and day in Martin's rubber bandages, and he was to take internally opium rather freely. Under this plan improvement began at once. Great layers of epidermis separated from the patches after the use of the creosote, and the latter became greatly reduced in thickness. When he next came to me two months later (March 16, 1887), I was much gratified to find the legs almost well. All the smaller patches were quite so, their healthy scars being all that remained, and the larger ones were very little raised above the surface, and much reduced in size. It may be a question whether the creosote, the bandage, or the opium was chiefly to be credited with the cure. My impression is that all helped, but of the three I put most confidence in the opium. This preference seems justified by the fact that the little

patches which had had the smallest share in the local treatment, or at any rate in the creosote, had healed first, and that the three spots above the elbow which had not had any local treatment had ceased to itch, and had almost wholly disappeared. The old gentleman's health had improved under the drugs. He had an excellent and sound digestion, not the least constipation or headache, slept well, and could walk three miles at a time. The dose of opium had been fifteen drops of Battley three times a day (for two months).

In reply to an inquiry, May, 1889, two years after the cure, Dr. Jotham was kind enough to inform me that the legs had remained perfectly well, the skin being quite smooth.

No. XXVIII.—*A remarkable case of Leucoderma Areata. Some curious facts possibly bearing upon its causes.*

I recently obtained some interesting information bearing upon the causes of leucoderma. My patient was a young woman who was sent to me by Mr. Calthorp Allison, who had previously been kind enough to give me her photograph. It was a well-marked case, and presented no peculiarities excepting in the unusually strong contrast between the areas which were blanched and those which remained brown. So extremely dark were the latter, that it was almost impossible not to believe that their pigment had greatly increased in quantity. The colour was that of a mulatto's skin. In reference to this question, however, it is to be noted that the patient was in this instance a brunette, and further that her mother, who came with her, had her face and arms quite as dark as the deepest tinted parts on the patient. The mother looked like the subject of bronzed skin, but she asserted that she was in excellent health, and that her tanned condition was due only to exposure. There could be little doubt that in her the pigmentation process was very easily excited. She was naturally of dark complexion. On inquiry I learnt that the father of the patient, in great contrast with his wife, was of a very fair complexion. Of their five children, three were dark like the mother and two were fair. The mother stated that in the

three who were dark there had been the peculiarity in infancy that they all had numerous white hairs on the scalp, which became coloured as they grew up. This peculiar feature had been very marked in the patient, who, in addition to the scattered white hairs, had a large tuft of them near the occiput. This patch, as well as the scattered white hairs, had all now become of a deep brown, almost black. Thus it would appear certain that in this family there were exceptional tendencies towards pigment changes. Whether these were to be attributed entirely to inheritance from the mother, or to the fact that the father and mother were of such different complexions, it is difficult to say. In the patient the leucoderma had begun to show itself in childhood ; the patches were very symmetrically arranged, and involved the face, limbs, and body. It was thought that they had not very much increased of late years, but on this point there was no trustworthy evidence.

On the subject of leucoderma I may just remark that I do not think I have ever known two persons who were relations the subjects of it. Certainly I have never seen two members of the same family. It would be of interest to ascertain the extremes of age at which it commences. I am not sure that I have ever seen it at an earlier age than seven, or later than fifty, but it is very probable that in children its early stages are overlooked. The portrait given in the New Sydenham Society's Atlas might well stand for that of the patient whose case I have given above, if we may be allowed to suppose the contrast between the brown and the white still more marked. I carefully compared the lad who was the subject of that portrait with the original sketch some ten years after it was taken. The white areas had enlarged a little, but not to any great extent. He was in perfect health, and the changes were still quite symmetrical.

No. XXIX.—*Leucoderma at a very early age. A parallel with Psoriasis.*

Miss L——, aged seven, is an example of leucoderma beginning at a very early age and in a very fair skin. She

was only three years old when the first patches were noticed; these were on the fronts of knees. It has since spread gradually in round patches over the whole trunk, and to the neck and hands. She has blue eyes, flaxen hair, and a very fair skin, but easily takes tan at the seaside. Her mother says that it began at the seaside, and is always worse when there; the explanation of this belief being, of course, that the sea-air browns the rest of the skin, and renders the white patches more conspicuous.

The patches are some of them very large, and although the skin generally is fair, they are yet very conspicuous from their absolute whiteness. They are arranged with good bilateral symmetry.

This case supports the hypothesis that leucoderma belongs to the psoriasis group. If the patches were scaly instead of being merely blanched it would be psoriasis. They began on the knees, are symmetrical, have slowly increased, and in no way interfere with the health.

No. XXX.—*Dr. Bowles' observations on the irritating influence of the rays of the sun.*

Dr. Bowles, of Folkestone, an experienced Alpine climber, has published, in the "Journal of the Alpine Club," the results of some interesting investigations as to the causes of sunburn. He is of opinion that the blistering, &c., of the face is not usually in direct relation with the exposure to sun. So long as snow is avoided the tourist may encounter hot sun with but little risk, whereas sometimes the face gets burnt in walking over snow when there has been no sun at all. He believes that a pigmented surface, brown or black, by absorbing the heat rays, prevents their injurious influence on the structures below. It has always been a difficulty why negroes bear sun better than white persons, and why albinos or the subjects to leucoderma blister so easily. Inasmuch as black absorbs best and we avoid black clothing in hot weather, it might have been supposed probable that a white skin would, like a white hat, have the advantage. Dr. Bowles' suggestion of a chemical influence exerted by the pigment, which

deprives the light rays of an irritating quality, may be the true explanation. He refers to the customs of certain native races who colour their faces when about to encounter sun exposure. The influence of snow is, he thinks, to make the light which is reflected from it much more powerfully irritating. The effect of sunlight when suddenly applied is to cause the skin to inflame and blister, but if the exposure be moderate and long continued, then bronzing is the result, and with bronzing comes a large measure of protection. Dr. Bowles asks attention to the peculiarly brown complexion which all dwellers at St. Moritz acquire, and compares it with the dark colour of Swiss châlets when amongst snow. This latter phenomenon he attributes to the same cause, a sort of burning influence exerted by rays of light which have been reflected from snow.

The subject is one of some novelty and much interest to medical men. Cases of eczema-erysipelas not infrequently originate from exposure in Switzerland, and lupus erythematosus also is occasionally seen as the result of sun-blain. We have also a distinct group of maladies (allied to Kaposi's Disease) which have for their special peculiarity that they are always worse in summer weather.

No. XXXI.—*A Peculiar Eruption — Symmetrical pigment spots over limbs, face, and trunk, of four years' duration in an adult.*

The case of Miss C. G—— was one of some peculiarity. Her arms were covered with an eruption which, at first sight, I took for the stains of a just receding syphilide. They were also freckled all over with deeply pigmented spots. She told me, however, that she had suffered from the eruption for four years, and that it got neither better nor worse. There was, moreover, not the slightest reason to suspect syphilis. I found that the freckling affected the face and the body, and the whole of the limbs more or less. On the face, however, the patches were very indistinct, and the condition was one of little more than slightly brown discoloration. On the legs there were plenty of distinct patches, but, contrary to

rule, they were not so dark as those on the arms. On the trunk it was not so abundant as on the arms, nor were the spots nearly so conspicuous. She told me that in the beginning she thought that the eruption was merely freckles, and I could not elicit that there had ever been any condition resembling urticaria. The nearest approach to this was her statement that her skin would come out red after a hot bath. Miss G—— was a brunette, aged thirty. She was thin, but considered herself in good health. Her parents were living. She told me that she had consulted Dr. L——, who said that the conditions were incurable. She believed that he had called it urticaria.

No. XXXII.—*A case of Xanthoma multiplex, in which the spots are scattered profusely over the trunk, head, and limbs.*

The subject of this case is a healthy, florid man, who was sent to me by Dr. Williams from Barrow-in-Furness. His eruption had been coming out about thirty weeks, and had been preceded by a three weeks' illness, during which he suffered from "biliousness." He had for long considered himself "bilious." His father also was "a bilious subject," but had no known skin disease. A brother also is bilious, and suffers much from headaches. There is no known history of the occurrence of jaundice in the family. The eruption consists in discrete shotty papules, in their first stage exactly like commencing variola. Many of these, but not all, have a hair in their middle, and thus present a slight appearance of umbilication, or resemble small spots of molluscum contagiosum. In many places they are confluent, or adhere in small groups exactly like molluscum contagiosum. In the earliest stage the papules are pink in tint, but as they develop they become raised and of a deep yellow tint. The intervening skin is not in the least inflamed. He first noticed them over the pectoral muscles, and next on the scalp and face, and they are still most thick and advanced in growth on these situations. The largest spots are not so big as split peas, but by coalescence little groups and streaks have been formed.

They become somewhat softer and less shotty as they grow bigger. The eruption is most abundant in the cleft between the scrotum and thigh. In this position the spots have coalesced and formed a patch on each side as large as the palm of the hand. Here, owing to friction, excoriation is threatened, but nowhere else is there any suggestion of it. In the axillæ the patches are numerous and of a very deep yellow, but are as yet tolerably discrete. On his scalp the spots are very numerous, so much so indeed as to nearly cover it. On the sides of the nose, on its tip, on the upper lip and the whole of the chin, the patches are very abundant. There are comparatively few on the forehead, almost none on the bridge of the nose, and none on the cheeks. With the exception of the concha of the right ear, there are none on, or in, his ears. In the right ear they are placed exactly in the position where the orange-peel patch of lupus sebaceous comes. The eruption on the upper extremities does not come below the deltoids. The lower extremities are almost exempt. His back is covered down to the cleft of the nates in the middle line, but the nates themselves, the back of the neck, the nape, and the backs of the arms, are exempt. It is his impression that some go away and that fresh ones come. Amongst those which are best developed and most yellow there are a great number of red stains, concerning which it is difficult to say whether they are increasing or receding. It is to be particularly noticed that the eruption avoids rather than otherwise the usual xanthelasma positions. There are numerous spots on the edge of the eyelids and near to the roots of the cilia, and there are but few above or below the inner canthus. There are several on the caruncle of each eye, and on the right eye two in the subconjunctival tissue, near to the border of the cornea. There are a few on the soft palate and a few on the fauces. On the lips they come close up to the skin margin of the prolabium, but do not involve the latter.

The man says that up to the beginning of his illness he was accustomed to take beer, but in strict moderation. During the onset of his symptoms almost every other morning he had a shivering fit. He does not remember that his urine ever contained bile. His tongue now is perfectly clean, and he

has not the slightest appearance of jaundice. He has been much troubled by itching. His urine is sp. gr. 1020, clear and of good colour. It does not contain sugar. The above notes were taken in August and September.

After the above notes were taken the patient was admitted for a week into the London Hospital, under the care of my colleague, Mr. Waren Tay, who kindly undertook to have the urine frequently examined. This was done, and on no occasion was any trace of sugar detected. It will be seen by those conversant with the literature of the subject that the case belongs to the group of Xanthelasma in association with diabetes, of which Sir William Gull recorded examples in the Guy's Hospital Reports, and concerning which much has since been written. Mr. Malcolm Morris has collected an excellent summary of the observations concerning this form, and has published an original case. I do not know, however, that in any case yet on record the production of the papules has ever approached, either in rapidity or profusion, what was witnessed in the case now before us. In the case recorded by Mr. Morris and in some others, the eruption has, after lasting for a time, disappeared. This fact may justify a certain degree of hope for my patient. He returned to Dr. Williams at Barrow shortly after the above notes were written. He was to take mercury in small doses. I have since heard that he has somewhat improved.

No. XXXIII.—*Xanthelasma of eyelids presenting peculiar conditions in connexion with senile atrophy of skin.*

An exceptional form of xanthelasma, in connection with atrophic thinning of skin, presented itself in an elderly lady named ——. The peculiarities consisted in that the xanthelasma deposit itself was extremely thin, and that the skin adjacent to them had become almost transparent from its tenuity; thus the patches were much less conspicuous than is usual. The patient herself denied having noticed them, or thought that they were only changes due to her age; but they were quite characteristic, and had begun in the characteristic

positions—above and below the inner canthus. They had extended over the whole length of the lower eyelid in a broad irregularly elliptical belt from one canthus to the other. Opposite the outer canthus of each eye there was a definite yellow patch. The belt which I have described on the lower lid was chiefly one of atrophy, with but little of the yellow growth. I have no doubt that the peculiarity of the case depended chiefly on the age of the patient, the conditions of senile atrophy being mixed with those of xanthelasma. The patient's history was a little peculiar; as I have said, she did not admit having ever noticed the yellow patches, and at first she denied having ever been a bilious subject. Her daughter who was with her, however, reminded her that she had once had an attack of jaundice, and on consideration she herself recollected that before her marriage she used to suffer dreadfully from sick headaches. Of late years, however, she had not done so.

No. XXXIV.—*Disappearance of Psoriasis during severe illness.*

A gentleman had a combat with a leopard which he had wounded. His right arm was most severely injured; he lost much blood, and great swelling followed (? erysipelas). He had been for long before the subject of psoriasis. Within a fortnight of his injuries, whilst in bed and very ill, every trace of the psoriasis left him. It returned some months after his recovery. This disappearance of psoriasis during severe illness is a fact which I have often before observed.

West Newman&Co ohn'h

PLATES I & II.

CONGENITAL STREAKS & PATCHES ARRANGED UNILATERALLY.

This portrait and the next show front and back views of a curious example of congenital affection of the skin in a Hindoo man. The original portrait was given me by Mr. Fred. Mackenzie, now of Hans Place, by whom it was sketched from the living subject. The affection is the converse of what we see occasionally on the white skins of Europeans. Its most important peculiarity is that of its strict limitation to one side, both on trunk and limbs, and next its arrangement in streaks and bands. These latter, on the trunk, curve forwards from the spine to the middle of the abdomen, much like herpes zoster, although by no means with the same definiteness of arrangement. On the limbs the bands run lengthwise, and in some instances reach the digits. Although at first sight suggestive of nerve-distribution, it is yet quite impossible to trace their location in connection with any known nerves; nor do they, like herpes, assume a corymbose expansion at their distal extremities. In some instances the band keeps to pretty nearly the same width from the upper part of the limb to the digit. These streaks in the white races are often more or less pigmented, or being somewhat papillary become discoloured, like ichthyosis, by dirt. They are usually observed either at birth or in early infancy, being no doubt essentially congenital, but they become much more conspicuous during childhood. Sometimes, indeed, they continue to grow for many years; the growth, however, is always simply an increase in papillary development, and there is never any extension of the patches at their edges. The disease is evidently mapped-out during intra-uterine life. Many years ago I ventured to conjecture that they might be due to something of the nature of intra-uterine zoster; but one must admit that there is not much evidence in support of that conjecture. They constitute a very important piece of evidence as

to the possibility of unilateral disturbances of nutrition during fœtal life. In the present instance the patches were simply white, and there was little or no evidence of tendency to papillary outgrowth.

For further remarks upon these singular conditions, I may refer to my recent address at the Neurological Society, which was reported, with illustrations, in the 'Illustrated Medical News.' I must mention also an important paper by Dr. Stephen Mackenzie in the same Journal.

West Newman & Co chr lith.

PLATES III & IV.

A CASE OF IODIDE OF POTASSIUM ERUPTION.

This portrait and the following belong to the same case, and illustrate the most exaggerated form of iodide of potassium eruption which I have ever seen. I do not think that there could be any reasonable doubt that the huge tuberous masses here depicted were really the result of the use of the iodide. As such I diagnosed them before knowing anything of the man's antecedents, and subsequent enquiry confirmed the suspicion. It will be observed that they are very similar in all local characters to others which have been not unfrequently observed after the use of the iodides and bromides, differing simply in the size attained. In illustration of this it will be of interest to refer to a portrait published in the New Sydenham Society's Atlas, in which the eruption was undoubtedly due to the bromide. The explanation of the very large size of the growths in the present case was to be found in the fact that the dose of iodide had been steadily increased as the eruption advanced.

The patient was a man aged twenty-six, who was admitted into the London Hospital much in the condition shown in the portraits. The latter were indeed taken on the day after his admission. He died from exhaustion a few days later. On enquiry at the Hospital in which the man had been treated before he came to us, it was ascertained that he had been admitted there on account of some swelling of the groin, which was diagnosed as syphilitic. He had at that time no skin eruption whatever. Iodide of potassium in five-grain doses was at once ordered. An eruption soon began to appear, and as it was considered to confirm the diagnosis of syphilis the iodide was increased to ten grains at the end of a week. Ten days later it was increased to fifteen, and later still to twenty. He continued it without intermission from July the 23rd to October the 9th, when mercury was

substituted. The eruption had been steadily getting worse the whole time, but as it had been throughout considered to be syphilitic the specific had been pressed.

On careful enquiry I did not think that there was much reason to suspect that the man had really had syphilis. He lived for about a fortnight after the iodide was completely left off, but during this time no material change occurred in the eruption. He was in an extremely feeble condition the whole time; and his death was from exhaustion. The microscope was carefully used, but revealed nothing of importance.

In the Guy's Hospital Museum there is a model (No. 117), which may perhaps belong to a closely similar case. Some of the tubers were as large as plums, and one of them even measured two inches across. Unfortunately no history is obtainable. I was indebted to my friend the late Dr. Hilton Fagge, the author of the Catalogue of the Guy's Collection, for drawing my attention to the close similarity between this model and my own case. I cannot but suspect that not a few cases which have been classed as cutaneous gummata in connection with syphilis have been really examples of iodide of potassium eruption, and I can call to mind several in bygone years in which patients died with severe eruptions of an anomalous character which were not improbably due to this cause. The frontispiece to Dr. Prince Morrow's (New York) work on 'Eruptions due to Drugs' shows the conditions in a fatal case of iodide poisoning. In it the tubers were not so large as in mine, but the inflammation of skin was more diffuse. Death was caused by a much smaller quantity of the drug than in my case.

Not only is it necessary in the diagnosis of syphilitic gummata of the skin to first eliminate iodide eruptions, but the same remark applies to the various conditions which have been grouped together under the name of "Granuloma Fungoides."

West, Newman & Co. London

PLATE V.

ERUPTION CAUSED BY CHLORAL.

This plate represents an eruption due to the use of chloral. It occurred on the hands of a gentleman, aged thirty-four. The patient had frequently taken the drug as a remedy for sea-sickness, &c., and on no less than fifteen occasions had observed the appearance of the eruption here shown. He usually took thirty grains of chloral, and on the following morning his hands would exhibit erythematous patches, with some thickening, and sharply defined margins. No other part of the body was affected. The patches, which were of a dusky red colour, were tolerably symmetrical, though not always of the same size on the two hands. They would remain out, causing much burning and itching, for a week or more, and then gradually disappear, the whole attack lasting at least three weeks. Some of the patches whilst fading showed an almost eczematous condition, as seen in the one on the back of the right wrist.

In the middle of the patch on the left thumb are seen two small pale areas, which are, I believe, old scars not admitting the erythematous condition.

The patient was of gouty stock, and had himself suffered a single attack of gout; otherwise he was in excellent health. Once after the use of the Bath waters he had a five-weeks' attack of Urticaria. It may from this fact be assumed that his skin was specially susceptible.

PLATES VI & VII.

A MIXED FORM OF SKIN DISEASE.

(Case of Philip Holmes.)

It is difficult to give a concise name to the eruption illustrated by these Plates (VI. & VII.). It is a connecting link between psoriasis, acne, lupus, and chilblains. The patient was a lad of twelve, delicate, and possibly phthisical, who had suffered from chilblains, and whose grandfather had been the subject of psoriasis. His eruption had begun in infancy, and had varied with the time of year, becoming, on the whole, steadily worse as he got older. As will be seen by the patch on his elbow (and there were others on the fronts of his knees), it was arranged something like psoriasis. From psoriasis, however, it differed in that everywhere scars were left when the spots healed. On the parts which were uncovered, as is seen on the hands and face, the eruption inflamed, and was attended with scabs. As in Kaposi's disease, little tufts of dilated capillaries, stigmata, were left after the eruption. Some of the spots, especially those on the cheeks, showed a tendency to the production of the apple-jelly growth which is characteristic of lupus. His cheeks indeed might be said to offer an example of "acne-lupus." The disease, however, was, in the main, a pustular form of lupus erythematosus. I have no doubt that the disease resulted from a mixed inheritance of tendency to scrofula and psoriasis, with that peculiar state of feeble circulation which gives proclivity to chilblains.

I have seen several other cases exactly like the above, and with similar histories.

Those who hold that such words as lupus, psoriasis, and acne are names for "morbid entities," which always keep close to their type, may find such cases as these very difficult to classify. For myself, having long held and taught that these names apply only to certain peculiar forms of inflammation of the skin due to causes and inherited proclivities which may be easily intermixed, I feel no hesitation in assigning them to a numerous and very varied class of hybrids. They are examples of pathogenetic partnerships.

PLATE VIII.

STATE OF THE HANDS IN LUPUS ERYTHEMATOSUS.

This plate may suitably be compared with the preceding one. It shows the condition of diffuse erythema of the digits and adjacent parts of the hands which not unfrequently attends typical lupus erythematosus of the face. The sketch was made from the hands of a boy of twelve who was the subject of the disease mentioned. He had large patches on his cheeks. (See New Sydenham Society's Atlas Portrait No. XLII.) The erythema of the hands may sometimes closely resemble chilblains, a condition to which, indeed, lupus erythematosus is itself closely allied. Often, however, the erythema is not in patches, but diffuse, involving all the fingers, and perhaps a large part of the hand also. It is often attended by small pustules, which ulcerate, and sometimes by the formation of tallowy white patches, which may pass into superficial gangrene. These but rarely involve the whole thickness of the skin. The case here figured is one in which these conditions showed especial severity.

PLATE IX.

A PECULIAR FORM OF SERPIGINOUS AND INFECTIVE NÆVOID DISEASE.

This portrait, which was taken from the arm of a young lady about fifteen years of age, purposes to illustrate a very peculiar condition of serpiginous or infective nævus. Although nævi often increase in size and in number during the first few months of life, it is very rare indeed for the growth to continue to spread. Such, however, was the case in this instance, and with the addition of other peculiarities. A very slightly marked port-wine stain was observed at the back of the arm soon after the infant's birth. For some years it scarcely spread at all, and no notice was taken of it. It then began slowly to advance, and the condition shown in the portrait was gradually produced. A careful inspection of the plate will show that the mode of advance is somewhat peculiar, and that it has not been by a continuous edge. It would appear as if little satellite spots had been produced, which had spread into circles, and, by gradually advancing by infective edges, had coalesced, producing the irregular pattern which is here displayed. Some very good examples of these spreading circles are seen over the elbow, quite isolated from the rest of the disease. These conditions are no ordinary part of nævoid disease. They were extremely superficial, and it was even difficult to be sure whether or not they left any state of scar behind them. I have, however, no doubt that such was their tendency, and that in some places a slightly-marked superficial scar could be demonstrated. The enlarged capillaries could be partially emptied by pressure, but not wholly, and in many places little tufts were distended with deep-purple venous blood, which could not be pressed out. In this latter condition, as well as in its tendency to serpiginous spreading, and the production of satellites, the case closely resembled what is seen in the disease which I have ventured to name Lupus Lymphaticus.

This latter malady, although often spontaneous, has been repeatedly observed in connection with port wine stain, and it always shows little tufts of capillaries which cannot be emptied. Its lymphatic element consists in the presence of little vesicles which contain lymph-fluid. It is serpiginous, infective, prone to produce satellites and to leave scars, and is thus clearly a member of the lupus family. In the present case there was little, if any, evidence of lymphatic disease, but the vascular changes and other features were much like those of the disease referred to, of which I cannot doubt that it is an ally. I have seen several other cases almost exactly like the one now illustrated.

PLATE X.

A MIXED FORM OF LUPUS IN ASSOCIATION WITH ULCERATIONS ON THE HANDS.

The patient in this case was a young woman, named Herbert. Her case was of interest as showing a mixed condition of common lupus and lupus erythematosus, in conjunction with a scar-leaving eruption on the hands. There was a strong history of phthisis in her family; she had herself always been delicate, and of very feeble circulation. Her hands presented a very peculiar condition, the fingers being covered with little red patches, in the centre of which were depressed white scars: these patches were arranged in groups, and were especially abundant near to the last joints and on the ulnar borders of the fingers. The patch on her cheek had been present for four years, and consisted chiefly of erythema, which resulted in scar; it had very slowly extended at its edge. The gums about her lower incisor-teeth were receding from the fangs, and were red and soft (a minimized form of lupus). She was liable to chilblains on the feet, and her hands were always worse in cold weather. During cold her fingers became dusky, and on several occasions her nails had inflamed and exfoliated.

The case shows strongly the association of liability to chilblains with the tendency to lupus. It was one in which an inherited predisposition to tuberculosis was combined with feeble circulation and the chilblain-tendency. The patch on the cheek got well under treatment by cauterization, and Miss H. was much improved in general health. She died of typhoid fever about three years after the portrait was taken. Her case may be compared with that of Col. —— (see 'Rare Diseases of the Skin').

West, Newman chromo.

PLATE XI.

THE CRATERIFORM ULCER.

(Acute Epithelial Cancer.)

This portrait shows a typical example of what I have ventured provisionally to call the Crateriform Ulcer. The ulcer so named is an acute form of epithelial cancer, which occurs on the face, much in the same positions as rodent does. It occurs also at the same ages, and in the same class of patients as rodent. Its features and clinical course are, however, quite different from those of rodent. It makes as much progress in weeks as rodent often does in years. It is indeed one of the most rapidly-growing forms of malignant disease with which I am acquainted. Its development is very peculiar and is exactly alike in all cases. It begins as a red, firm tubercle, which involves the deeper parts of the skin, and rapidly develops into an elevated mass shaped like a bee-hive; this soon breaks down in the centre, and produces the condition which is denoted in the term "crateriform"; there is very little inflammation at the base, the surrounding skin remaining quite sound. I have not as yet observed any cases in which the lymphatic glands became implicated, but, as regards this point, it must be remembered that all the cases which I have seen were promptly treated by free excision, and, so far as I know, cured. I have given a full report of this peculiar form of cancer in the last volume of the Pathological Society's Reports. Since it was published, however, several other good examples of the disease, have been brought under my notice. One of the best was shown by Mr. Harrison Cripps at a meeting of the Dermatological Society. It affected the same part as in the present portrait, and had indeed produced a condition of things which was a *facsimile* reproduction of what this portrait shows. The patient was an elderly man, in whom the ulcer had commenced as a little red pimple only three or four months before. A portrait has been secured for the College of Surgeons collection.

In the case which this portrait illustrates, the entire eye-lid on the opposite side had been excised, with transplantation of skin from the forehead, two years before. The ulcer for which this was done was exactly like the one shown, but much larger. It will be seen that there had been no local recurrence, nor any enlargement of lymphatics.

West, Newman chromo.

PLATE XII.

LUPUS BEGINNING ON THE GUM, AND IN ASSOCIATION WITH GREAT ŒDEMATOUS HYPERTROPHY OF UPPER LIP.

Miss P—— was sent to me by Mr. Hogarth Clay, of Plymouth. She had suffered from lupus for six years, and had had much treatment. There was no history of tubercle in her family, but some members were said to have been scrofulous. She had suffered much formerly from chilblains, and had always had cold hands and feet. Something which was said to have been a polypus had once been removed from her nose. An interesting point in the case was that the lupus had begun on the gums, and that she still had considerable ulcers behind the front teeth. On the face there were many little patches, looking like bruises in the rind of an apple; some of these were on the forehead, but the greater number near to the mouth. In connection with the disease of the gums and the under surface of the lip, her whole upper lip had become the site of chronic œdema and hypertrophy. It was in order to show the great hypertrophy of the lip and the association of lupus of the face with lupus of the mucous membrane that I had the portrait taken. It is, I think, not very usual for lupus beginning on a mucous membrane to affect the skin afterwards. The patient was admitted to the London Hospital, under Mr. Waren Tay's care, with a view to treatment by scraping and cauterization.

PLATE XIII.

A RARE FORM OF LUPUS (MARGINATUS).

In this Plate we have an illustration of a very rare form of skin disease allied to lupus. I support that statement as to its nature by the same class of facts which will be mentioned in reference to lupus lymphaticus. The morbid condition was a very chronic serpiginous inflammation of the skin, clearly infectious, producing satellites, and which, when it underwent resolution, left the affected integument in the condition of cicatrix. Such are for me the essential features of a lupus inflammation. It is needless to say again that it differs in some respects from common lupus, lupus erythematosus, and lupus lymphaticus. There are, however, features of family resemblance which are more important than the differences.

The portrait, as will be seen, shews the face of a young fair-complexioned lad, covered with very abruptly-margined patches. These patches have delicately tuberculated or lichenoid borders, and show a pale thin cicatrix in their areas. They are plentiful, but not quite symmetrical, and certainly not arranged in the bat's-wing form of lupus erythematosus. Nor was there anything which could be definitely recognised as the apple-jelly deposit of lupus vulgaris. The new growth or effusion present in the aggressive edge, and which preceded the scarring, was in fact exceedingly small in quantity. There had been no open ulceration. I saw the boy at intervals during several years, but have not had any recent opportunity for ascertaining his condition. (See next Plate also).

PLATE XIV.

A RARE FORM OF LUPUS (MARGINATUS).

In this portrait is shown the arm of the boy whose face is the subject of the preceding one. The conditions displayed are a long streak of irregular slightly tuberculated patches passing down the forearm. A glance at the patches, as seen on the upper arm, will convince any one that it is the same disease as that shewn on the face. We have a finely tuberculated border with scar in the centre, the edge clearly being aggressive. Low down on the forearm and on the ulnar border of the hand the changes are of a coarser kind. The patches are thicker and more lumpy, and attended perhaps somewhat with papillary growth. The reader may profitably compare the appearances presented on the upper arm with those shown in Plate IX., page 228, of the 'Archives.'

The case which is illustrated in these two portraits is one of which I have never seen the exact parallel. I possess another portrait showing exactly the same state of things on the arm of a young lady, and with similar arrangement, but in this instance the patient had no spots on the face. The disease appears to be an extremely chronic one, for in both these two instances I have had opportunities for watching the patient during several years, and there has been no material progress. The long streak-like arrangement on the forearm might suggest at first sight distribution by the ulnar nerve, but a moment's consideration will, I think, convince any one that this is not the case, for the patches on the upper arm overlie the trunk of the nerve and not its filaments of distribution. In both the cases mentioned the disease had begun in early childhood.

West, Newman chromo.

PLATE XV.

LUPUS LYMPHATICUS.

The two figures in this Plate are from different subjects, both of them young boys. The details of both cases have been published in the 'Pathological Transactions' for 1880. The disease was exactly alike in the two cases, and in each instance it had been developed without any preceding nævoid condition. In one case it began on the chin, by what looked like a little wart, at about the age of nine; and in the other on the shoulder, at the age of four, apparently the as result of friction from the boy's braces. In each instance the morbid condition had spread near to the part first affected, but had not developed itself on any more distant region of the body. It consisted of groups of coherent vesicles, upon and amongst which were little tufts of dilated capillaries. There was some general thickening of the skin at the base of the vesicles; the latter, which were firm and very persistent, yielded a fluid which was not distinguishable from lymph. There was no outgrowth of papillæ whatever. The character of the eruption was remarkably the same in all parts, varying chiefly in the presence or absence of the little capillary tufts. There was no discharge of any kind from the eruption, but the patches were liable to attacks of erysipelatous inflammation. The treatment adopted consisted in destroying the patches by caustics and the actual cautery. The report in the Pathological Society's volume is accompanied by a description of microscopical appearances, and an engraving by my friend Dr. Sangster.

PLATE XVI.

LUPUS LYMPHATICUS.

In this Plate a third example of this curious disease is shown, and the close identity of all three will be readily admitted. In this instance the patient was a young man of about 17, under care in the London Hospital. The eruption had been present several years, and was spreading, as in the other cases, at its borders and by the production of satellites. There were no similar patches on more distant parts of the body. Several attacks of a sort of erysipelatous swelling of the affected skin had occurred.

The curious disease here illustrated, and which I ventured some years ago to name as above, has now been well investigated by several observers, but, as far as I know, in England only. All agree that the cystic-formations, which constitute such a peculiar feature, are of lymphatic development. These little lymph-cysts have been observed principally under two conditions,—first, in association with congenital nævi; and secondly, as in my present cases, wholly without such connexion. It would be convenient, I think, if the two groups of cases were kept apart. In justifying the term lupus lymphaticus as applicable to the non-nævoid class here illustrated, I take into consideration the facts (*a*), that the disease is of local origin; (*b*), that it is infective, spreading at its edges and producing satellites; (*c*), that it is very chronic, but at the same time very persistent in its course; (*d*), that it begins usually in the young; (*e*), that it leaves scars when cured; and lastly (*f*), that it is attended by cell-formations indistinguishable from those of lupus. It is of course very different both from lupus vulgaris and lupus erythematosus, but scarcely differs more from them than they from each other. All I contend for is that it should be placed in the lupus family. I have now seen about eight examples of the malady, and several have been recorded by other observers. The nævoid form was, I believe, first illustrated by Mr. Bryant, in the Pathological Society's 'Transactions,' and subsequently, in much more detail, by Dr. Tilbury Fox. The latter observer gave excellent microscopic descriptions, and fully recognised its lymphatic nature.

West, Newman & Co. chr. lith.

ARCHIVES OF SURGERY.